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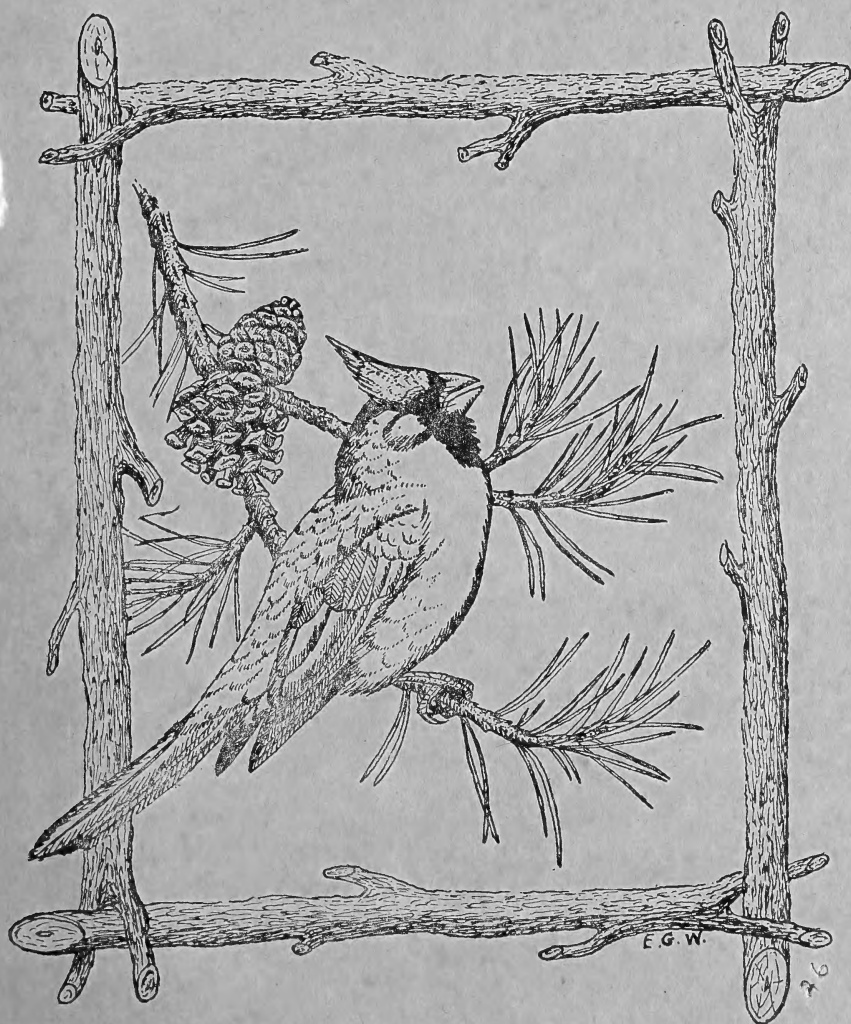
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THE AUDUBON BULLETIN



Number 53

March, 1945

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ILLINOIS AUDUBON SOCIETY
(ORGANIZED IN 1897)

For the Protection of Wild Birds

Affiliated with
The Chicago Academy of Sciences
2001 NORTH CLARK STREET
C H I C A G O
Telephone Lincoln 0606

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THE AUDUBON BULLETIN

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A History of the Chicago Ornithological Society

By DR. R. M. STRONG

IN THE SPRING of the years 1904 to 1914, I conducted a course in ornithology at the University of Chicago, and I had a similar course in the first half of the summer quarter during those years. The class was divided into sections of ten students for field work, and each section was headed by an assistant or myself. We rotated in leading the sections.

These assistants were all graduate students in the University of Chicago and they, of course, had to be able to identify birds at sight in the field. The Department of Zoology did not have enough graduate students with this ability, and it was necessary to draw upon other departments. The size of the class was limited, and each session, by the number of suitable assistants available. It was difficult to discover such talent in a large body of students, and they were usually not available for more than two or three years.

It occurred to me that an ornithological society would help in this problem. It also seemed logical that a great city like Chicago should have an ornithological society for exchange of views and information as well as for promotion of ornithological work in the Chicago region.

There were two Fellows of the American Ornithologist's Union living in Chicago at the time. One of them, Mr. Ruthven Deane, was a genial and cultured business man who was probably happier in ornithological activities than at his office. The other was Mr. Charles B. Cory, sportsman, naturalist, golfer of international fame, and curator of ornithology at Field Museum from 1893 to 1920.

I had conferences with these two gentlemen about the idea of establishing a Chicago Ornithological Society. Mr. Deane was cordial as always, but he predicted that the society would not last six months, citing the short life of a similar enterprise, the Ridgway Ornithological Club of Chicago, which was founded in the early eighties and published a bulletin. Though thus pessimistic, Mr. Deane was the speaker at the second meeting, and he was for years a prominent and interesting member. His resonant voice, excellent diction, and long experience were greatly appreciated at meetings.

Mr. Cory, on the other hand, was frankly hostile to the enterprise. He stated that he had in mind organizing sometime a vertebrate zoology society, a plan which he never carried out.

Though unsuccessful in selling the idea to these Fellows of the American Ornithologist's Union, we decided to go ahead anyway with the support of the amateur ornithologists in our acquaintance. At that time there was a graduate student in the University of Chicago who had been an exceptionally fine assistant in my course in ornithology. He had also helped me, through his acquaintance with graduate students interested in birds, in getting assistants for my course. This was Ralph W. Chaney, who later became a distinguished paleobotanist and has been professor of paleobotany at the University of California since 1922. Chaney assisted in contacting ornithological possibilities for the Society.

The first meeting was held December 11, 1912, in the lecture room of the Department of Zoology at the University of Chicago, and there were 13 persons present who became charter members. Some of these were as follows: Dr. Alfred Lewy, who is a prominent ear, nose, and throat specialist; Dr. Charles H. Swift, who is a professor in the Department of Anatomy at the University of Chicago; Mr. Warralo Whitney, deceased, was a teacher of biology in one of the Chicago high schools; Dr. Morris M. Wells, deceased, was a member of the Department of Zoology at the University of Chicago and later founded the General Biological Supply Company; Elliot Downing was a professor in the Department of Education in the University of Chicago; Dr. John W. MacArthur, then a graduate student, later became a distinguished professor of genetics at the University of Toronto; Mr. Leon Walter was a taxidermist at Field Museum, later distinguished for his important contributions to the technique of taxidermy and model-making. Only three of these are still members: Dr. Alfred Lewy, Dr. Charles H. Swift, and the writer.

The next meeting was on January 14, 1913, and another meeting was held on June 28, when a constitution was adopted and officers for the year elected. Mr. Ruthven Deane was the speaker at the meeting on January 14. Two people were present at the third meeting who were to have much influence in the Society for a number of years: Mr. and Mrs. Percival Brooks Coffin. Mr. Coffin was a bond broker, and his wife had been an alert and enthusiastic member of a small class which I had conducted the preceding spring for people not regular students in the University. I had been impressed by her alertness and enthusiasm.

The Society adopted a policy of restricting membership to persons with considerable knowledge of ornithology, and all candidates for membership were considered carefully by a membership committee before election. Presumably, this policy and the relatively long distances which members had to travel to meetings were responsible for the relatively small size of the Society.

As the dues were small, and the membership less than one hundred, there was little income for necessary expenses. Mr. Rudyard Boulton, curator of ornithology at Field Museum, was elected president in 1938. He started a movement toward more liberal requirements for membership with the result that both membership and attendance have increased somewhat. The dues were also raised from one dollar to two dollars per year.

With so small an income it was not feasible for many years to rent

halls, and it was consequently difficult to get suitable rooms for meetings which would be equally accessible to members living in various parts of the Chicago region. The University of Chicago is not centrally located, and in 1916 it was decided to move to the Loop. For a few years meetings were held in the office reception rooms of two physician members, Doctor Lewy and another prominent physician, Dr. Frederick C. Test. There were other meeting places for short periods, including the office of the Cook County Forest Preserve. A small room at the John Crerar Library was used for most of the meetings from 1921 to 1938. In 1939 a larger room was needed and the policy of renting a hall was begun.

Programs of meetings have usually included an address and reports of interesting observations and experiences. The June and September meetings have been devoted mostly to reports of field and banding operations. The Society does not meet during July and August. Conservation propositions have been presented at a majority of the meetings, and in recent years a delegate to the Conservation Council has made monthly reports.

It has always been a problem for the president to decide how much time to allow for reports of field operations, especially when the program included an address. There have been years when each member was invited in turn to report. A common practice in recent years has been for the president to give a place on the program for unusual or especially interesting observations or experiences.

The Society published in 1942 a volume containing the results of an ecological study by one of its members: "Nesting Birds and the Vegetation Substrate," by William J. Beecher.



A Naturalist on the Move*

By VERNA R. JOHNSTON

LEAVING Georgia's red clay soil behind, we shut our eyes temporarily on all forest and prairie life and headed for the salt spray and eolian sand dunes of the Atlantic Ocean. Near Beaufort, North Carolina, we found them — on Pivers Island where the Biological Laboratory of the United States Fish and Wildlife Service is situated and where Duke University maintains a Marine Laboratory. Our three day stay there read like a chapter in a new and refreshing book, full of curious animal life and fascinating experiences.

At low tide our first late afternoon, we boarded the U. S. Cutter "Sea Horse" and plowed through the rough surf for fifteen minutes to reach a small sand island — Bird Shoal. The boat dropped anchor in shallow water and we waded ashore, finding sand dollars on the bottom, clam and snail shells, some tropically colored, others bleached, thrilling at the sight of a sting ray whipping its pancake form from the sand bottom and gliding out of sight in deeper blue water. Ashore was bird life aplenty. One lone snowy egret stalked the far shore, shuffling its bright yellow feet to stir up food, leaving no doubt as to its identity. Two green herons fed in shallow

*This is the concluding portion of Miss Johnston's story of a five-week research expedition through the southeastern states. Earlier portions appeared in our September and December, 1944, issues.

water reeds and near them a pair of American oyster-catchers stood motionless. Noted for their fondness for oysters and clams, these birds reputedly carry closed shells high in the air and drop them onto rocks to break the shell and eat the soft contents. They flash a vivid black and white pattern in flight, topped off by a long vermillion bill. Herring gulls and black-



Three species of clams; Caracium, upper left; Venus, lower left; scallop, right center. Common on North Carolina sandy coast.

Venus and scallops are both food delicacies.

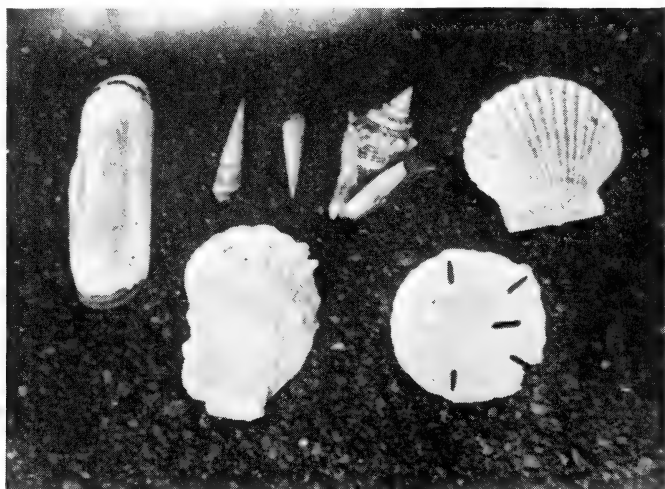
headed laughing gulls constantly landed and soared about the shoal; the air was filled with the squealing notes of least terns and occasionally the raucous "ka-arr" of the Caspian. Shorebirds probed nervously in the sand for burrowers they could dig out or aquatics left stranded by high tide. Piping plovers, Wilson's plover, sanderlings, least and semi-palmated sandpipers were all hard at work. A group of 35 black skimmers flew over, black-backed, clear white below, with the characteristic uneven red bill, the lower mandible nearly a third longer than the upper. Later some flew by singly, skimming low over the surf, dipping that lower mandible into the water occasionally to pick up surface food. This is certainly a bird appropriately named and one we saw frequently along the coast, nearly always skimming the surface.

We visited Bird Shoal on a second occasion in late morning, just as high tide was coming in. The special purpose of this trip was to find *Callianassa*, an unusual crustacean which lives in burrows a meter or more deep in flat sand beaches. Our guide chose several holes on the surface which looked promising and we began to dig around them with long-handled shovels. We scooped out pits deep enough to bury a man standing up, but luck was not with us — no *Callianassas* crawled into view.

Dredging in deep water brought to the surface some interesting marine animals. A dredge is lowered over the stern of the boat and allowed to drag on or near the bottom as the boat chugs along. When a few minutes

have elapsed, the connecting cable is cranked up and the load hauled in. In this way animals living in deep water can be captured and studied at leisure on deck. Three hauls yielded infinite numbers of clams, among which scallops were probably the most common type. Spiny sea urchins of pastel pink and purple hues, with their bristles raised on end, came up from the depths. With them were five-fingered starfish and tiny hermit crabs peeking coily out of the snail shells they had taken over as homes. There were corals in varying shapes and colors and flimsy soft-shelled crabs. Sea squirts clung tenaciously to stone or mollusk shells — curious objects one would hardly believe to be alive until he touched the squashy sac and saw water squirt out of the two tubes on top.

In burrows on Pivers Island lived hordes of curious fiddler crabs, tiny fellows that scurried for a hole when approached. The male has one small claw and one large one; some scientist with a vivid imagination likened the crab's habit of waving his small claw to the motion of a fiddler bowing his violin, hence the name — fiddler crab. Here, too, roamed fish crows calling a short "ca," unlike the "caw" of the common crow, and boat-tailed grackles, flourishing that extra-long posterior appendage.



Marine life: reading from left to right, Tagelus, two Terrebra snails, Strombus pugilis, a snail with a razor-like operculum which it thrusts at enemies, scallop; lower row, left to right: oyster shell, sand dollar.

On the ocean side of Shackleford Banks, a long, coastal, dune-covered island, two members of the party captured a Portugese man-of-war. They spied it floating in shallow water, the pear-shaped bag of magnificent rose-blue on the surface and beneath it long tentacles hanging down. It was hard to realize that what looked like one animal was really a colony of hundreds of individuals, but such is the amazing man-of-war. Some of the tentacles are specialized for pulling in food, others for reproduction, and

others carry a powerful sting. The bag on top is filled with air and flaunts a puckered crest which may be turned in any direction to steer by wind currents. Apparently only a limpid mass of gorgeous color, this creature is in reality one of the many peculiar but singularly successful dwellers of salt water.

Late one night, Dr. Harold Humm, the Duke botanist, took us down to the pier to witness a most unusual sight. He lowered an oar into the inky black water and waved it back and forth. As though by magic, millions of small electric lights flashed on in the agitated area, glowed for a minute, then faded. Other movements in the water produced the same results. We were watching luminescent bacteria and protozoa, microscopic creatures which produce some chemical change in their own bodies when agitated and form lucifren, the same material which makes the firefly glow. Dr. Humm told us that he once walked along the shoreline at night and could see his footprints for 150 yards behind him.

With this last fascinating experience, we left the ocean behind and turned inland toward the Blue Ridge Mountains. How inviting they looked as we circled higher and higher through the verdant hills that climbed as a ladder to their summits. Soon we were among them. I know now why some Americans call the southern Appalachians the most beautiful mountains in the world. They don't tower 14,000 feet in the air, rugged, defiant, and breath-takingly magnificent like the mighty Rockies. Their beauty lies in the serene, peaceful charm of rolling mountains partly hidden in a pale blue haze, even on the clearest day. In those mountains are heavily-wooded slopes, dark ravines where rushing streams surge downward past rocky banks, wide flat valleys where tobacco grows and the haze seems to love to settle. Most of the ridges range between 2500 and 4000 feet elevation and reflect those varying shades of green which are the pride of a mixed hardwood forest. But there was another color trying to fit into the pattern, an unharmonious one that should not have been there. The color was silver and we found it all over the mountains on the trunks of dead chestnut trees. A century ago the American chestnut was one of the most useful of all our forest trees and one of the best loved. So abundant was it in eastern North America that ecologists named certain regions as oak-chestnut communities. About fifty years ago a tiny fungus (*Endothea parasitica*) accidentally was brought into this country on some introduced plants. No one could even guess the tremendous destruction that small oversight would cost. The tiny plant found a happy home immediately in the bark of the chestnut tree and began to multiply by the thousands. There were no enemies to curb its efforts; they had all been left behind on foreign soil, and it takes hundreds of years for new ones to develop in a strange land. So the fungus spread, its microscopic spores carried innocently by the wind, on the feet of birds, squirrels, and insects, the length of the Appalachian mountains and westward as far as the chestnuts ranged. Everywhere it struck, chestnuts died. They could not survive with their bark destroyed anymore than man can live without a skin. The millions of dead trees left standing on the Allegheny ridges bear mute testimony to the thoroughness of the chestnut blight. Fortunately chestnuts sprout from the base of a dead tree as well

as from nuts, and throughout the mountains we saw many chestnut seedlings. Their growth is limited, however, for when they reach a certain stage, the fungus goes to work and soon reaps a deadly result. A forester who knows the blight well and has tried all the recognized methods of stopping it in vain told me that the only hope for the chestnut is a slim one. When there are practically no chestnuts left for the fungus to live on, it will die off in enormous numbers — unless it finds another tree to successfully parasitize. If a few chestnuts can be saved, and these seedlings continue to survive until the fungus is gone, the chestnut could come back and perhaps eventually occupy its former niche in the American forest.

Under the oaks and dead chestnuts in the Blue Ridge flourished a rich and varied shrub stratum. Wherever moisture was present, rhododendron, mountain laurel, menziesea, and azalea grew profusely, and in ravine heads hemlock enjoyed the wet habitat sufficiently to mingle with its deciduous neighbors. The forests rang continually with songs. One high sweet trill I followed down came from a busy black and white warbler, hunting for insects in every crack and crevice of a large cucumber tree. Acadian flycatchers called demandingly from perches between swoops at moving victims, and along the isolated mountain roads white outer tail feathers of Carolina juncos flashed as the birds darted into the forest. There were Virginia deer here, too. We knew it without seeing them by the tell-tale browsing line on trees and shrubs. Missing sprouts at the tip of branches, vines with no leaves up to deer level and little reproduction of new shoots and seedlings were ample testimony to the presence of Bambi's relatives.

There is a vast difference between the flora and fauna of the southern Appalachians and the northern mountains of the same chain. Each region has its own charm. But if one were to search for an area exactly intermediate between the White Mountains and Adirondacks of the north and the Carolina Blue Ridge of the south, he might well begin and end in the Cheat Range of West Virginia. For here, in a southern latitude, reaches down along the mountain tops a fragment of the Canadian forest, the home of hermit thrushes, white weasels, and snowshoe rabbits. Our group spent three days in this region last summer and were fortunate to have Dr. Maurice Brooks of West Virginia University as our guide, a man who has known these mountains since boyhood.*

We discovered on our first climb that the forests of the region vary in character and show marked altitudinal zonation. Four types stood out prominently: (1) oak-chestnut, (2) northern hardwoods, (3) northern mixed forest and (4) red spruce-yellow birch.

Oak-chestnut forests occupied the lowest points, extending roughly to elevations of around 2,500 feet. The oaks, hickories, dead chestnuts, and other plants resembled closely a southern oak-chestnut community. But the birds differed, there being an intermixture of northern and southern types, such as least flycatchers and black-throated green warblers with white-eyed vireos, hooded and Kentucky warblers. Apparently the combination of warm days and cool nights is satisfactory to large numbers of

*I am indebted to Dr. Brooks in person and to his article in *The Cardinal*, July, 1943, for much of this information on Cheat Mountain forests and birds.

birds at this elevation. Many birds range through all four of the flexible tree zones, but a few appear to find their preferred habitat in one or two zones.

The northern hardwoods forest type is well developed over large portions of the Cheat slopes. Coming in just above the oak-chestnut areas, this belt extends up the mountains to about 3500 feet, varying with topography and exposure. Beech, sugar maple, basswood, striped maple and mountain maple are the prominent trees, and a slightly more northern bird life abounds.

The northern mixed forest lies between the northern hardwoods below and the spruce forest above, at approximately the 3500-4200 foot contours.



Cones of the shortleaf pine (left) and loblolly pine illustrate the difference in size and shape between these two species.

Yellow birch, hemlock, and red spruce dominate a varied habitat. The shrub life is abundant. Rhododendron, azaleas, deciduous holly of four species, mountain laurel, American yew, hoary alder, beaked hazel-nut and fetid currant form a jungle-like undergrowth which makes travel, except along opened trails, virtually impossible. Ferns are everywhere and there are five species of club mosses (*Lycopodium*) which often carpet the ground. In favored localities bloom northern orchids. The numerous decaying logs covered with mosses and trees heavily hung with *Cladonia* lichens give to the forest a hoary appearance reminiscent of more boreal regions. This zone has a rich and highly diversified bird life. Where clearings have been made, yellow-breasted chats and mourning warblers may occupy the same blackberry thickets. Worm-eating warblers occur locally. The conifers bring in winter wrens, golden-crowned kinglets, red-breasted nuthatches, and brown creepers.

Occupying the highest peaks and ridges is a northern evergreen forest

of red spruce, remnants of the original native stand of over half a million acres, or regenerated trees following cutting. Yellow birches come into old spruce growths abundantly. The shrubby understory is not conspicuously different from that found in the northern mixed zone just below, but the bird life is definitely that of a northern coniferous forest. Our first evening in the Cheat range, we drove up the mountainside just at twilight, along a wooded road winding through mixed forest, then a fragment of virgin spruce where a snowshoe rabbit hopped across the road and was gone, and finally into a dense stand of young spruce at the summit. This was Gaudineer Knob, 4,445 feet above sea level, a spot accessible but still wild. Standing on the balcony of its fire tower we looked down upon a sea of unbroken spruce forest, stretching mile after mile in all directions. Near us the bubbling music of winter wrens suddenly burst forth, breaking the stillness. The plaintive whine of magnolia warblers echoed softly from below, and as we looked through the rising dusk in that direction, the familiar chirp of a robin fell upon our ears — a wild, shy robin of the wilderness. From a distance pealed the flute-like notes of the olive-backed thrush, ascending the scale in three's — and then, surpassing all the others, the ethereal song of the hermit thrush, one sustained opening note and a series of bell-like trills. This seemed truly like the north woods descended on a West Virginia mountain top.

It was the climax of a trip rapidly nearing its end, and during the long journey back to Illinois, I could still close my eyes and hear hermit thrushes singing in the northern wilderness.

Berwyn, Illinois.



Rare and Endangered Species of Birds in Northern Illinois

By MARGARET M. NICE

THERE ARE TWO chief causes of the striking impoverishment of our avifauna: direct persecution by man, and the wholesale destruction of habitats.

Birds that suffer most from hunting are the ducks, geese and upland game birds; in the past this was true also of the shorebirds. Birds that suffer from pest-control campaigns are herons, kingfishers, crows, owls, and most of all hawks. Since we came here in 1936 we have noticed a marked diminution in the number of hawks.

As to destruction of habitat, this includes drainage, cutting of trees and undergrowth, clean farming, and digging out of osage hedges. Much of this really constitutes bad farming, as it leads directly to erosion.

Here lies the great opportunity for educating the public, persuading them that Nature knew what she was about with her swamps, prairies, weeds and tangles. If they will only leave well enough alone in some places and replant in others they will have less trouble with floods and droughts.

As I have written elsewhere: "This world would be a far lovelier and more wonderful place to live in if we left some place for the wild creatures,

some forests for the beasts and birds, some swamps for the wild fowl, some prairie for the wild flowers.

"It sometimes seems from the way people treat this beautiful earth, as if they expected the end of the world to come shortly, perhaps in the year 2000. On the contrary, scientists tell us that the earth should remain habitable for man for *twelve thousand million years!* What, unless we mend our ways, will there be left of interest and variety, of beauty and unspoiled wilderness, in that inconceivably long stretch of years to come?" (p. 154 of *The Watcher at the Nest*.)

Information on the former status of these diminishing species was largely obtained from Ford, Sanborn and Coursen's "Birds of the Chicago Region," published in 1934:

CONTRIBUTING CAUSES OF SCARCITY			CONTRIBUTING CAUSES OF SCARCITY		
Species	Shooting	Destruc- tion of Habitat	Species	Shooting	Destruc- tion of Habitat
Common Loon.....		X	Wilson's Phalarope.		X
Eared Grebe.....		X	All Owls	X	X
Great Blue Heron..	X	X	Whip-poor-will		X
Canada Goose	X	X	Kingfisher	X	X
Snow and Blue Geese	X	X	Pileated Woodpecker	X	X
All Ducks	X	X	Eastern Kingbird ..		?
Swans	X	X	Phoebe		X
Hawks	X	X	Least Flycatcher...		X
Ruffed Grouse	X	X	Cliff Swallow.....		X
Prairie Chicken....	X	X	Yellow-headed		
Bobwhite	X	X	Blackbird		X
Sandhill Crane	X	X	Leconte's Sparrow..		X
Woodcock	X	X	Nelson's Sparrow...		X
Upland Plover	X	X	Lark Sparrow.....		?
Buff-breasted			Chipping Sparrow..		X
Sandpiper	X	X	Harris's Sparrow ..		?
			Migrant Shrike....		X

Chicago, Illinois

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Winter Birds

*There was no covert for the birds
And yet I heard them sing
As joyously as if the trees
Were canopied with spring.*

*And though the way is still obscure
That you and I must go,
Yet all my hopes, like winter birds,
Sing on amid the snow.*

—ELINOR MACARTHUR

A Field Trip at Santa Barbara

By MRS. CHARLES S. BRADEN

IT WAS A fascinating and stimulating experience last October 3 to take a field trip at Santa Barbara, California. A landscape and climate so different from our own; new and exciting bird names, as, marbled godwit, curlew, black turnstone; congenial companions who knew the habitat of the birds of that region, all made it a very satisfactory day.

Some of the birds mentioned here were seen in the vicinity of the home of Mrs. Seth Langdon, former chairman of Field Trips of the Evanston Bird Club, who now lives on Quinientos Street in Santa Barbara. Other places visited were the bird sanctuary of Santa Barbara, a large pond where many water birds were seen in migration, the ocean front, a salt marsh, and Sycamore Canyon, back of the Langdon home.

At the sanctuary were many old friends, pintail, shoveller, baldpate, mallard, great blue heron, coot, ruddy duck, pied-billed grebe, and black-crowned night heron. We found one American egret (I had seen numbers of these in northern California), and one Brewster's snowy egret. We saw the canvas-back duck, the eared grebe, osprey, tule yellow-throat (just the northern yellow-throat to me), San Diego song sparrow (seemingly another old friend), western belted kingfisher, western kingbird, ring-billed gull, Farallon cormorant, and western gull.

On the ocean front were brown pelican, semi-palmated plover, one black turnstone, and a large flock of sanderlings chasing themselves out of the way of the waves breaking over the sandy beach. At another part of the beach, as we were plowing through the sand Mr. Langdon called out, "Long-billed curlew!" And there they were, just above our heads in a small flock. We also saw the Hudsonian curlew, western willet, marbled godwit, and Heermann's gull. In Sandy Land, a salt marsh, we added Belding's sparrow to our list.

On the way back and at the Langdon home we saw the red-shafted flicker, California woodpecker, western crow, California shrike, Audubon's warbler, western mockingbird, linnet, Nuttall's white-crowned sparrow (quite common at this time), desert sparrow hawk, killdeer, Brewer's blackbird, black phoebe, Anna's hummingbird, and willow goldfinch. On the hill at the side of the house we saw the road runner several times. In the canyon we saw numbers of bush-tits, called coast bush-tit here, and the San Diego titmouse. We heard the wren-tit, identified by Frances Langdon as it was a completely unknown bird to me. There was a hawk hovering above us in a good light which we wanted to call the red-bellied hawk, but our conscience forced us to leave it as not satisfactorily identified. Mrs. Langdon has seen the western sandpiper, Say's phoebe, and perhaps others.

The next day on a trip to Mission Canyon we saw the western meadow-lark, the California jay, and had a satisfactory look at the usually elusive wren-tit. Also we found Hutton's vireo, the western gnatcatcher, California yellow warbler, lutescent warbler (orange-crowned to me), black-throated gray warbler, western tanager, and the Oregon junco. The evening of my arrival at Langdon's I found a Bewick's wren in their back yard.

Many of these birds were completely new to me. Others were old friends disguised with new first names. Some I had seen on a former trip to the west coast. One, the sanderling, rated as common in this region in migration, I had never seen before. It was a long way to go to meet a bird from home.

Evanston, Illinois.

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*In March I hear the robin sing
And then I know that it is spring.
But, reader, how do you suppose
The chuckle-headed robin knows?
Once, when I'd chased the cat away,
He swore at me for half a day!*

—EDWARD R. FORD

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SPARROW HAWKS, the smallest and most brightly plumaged of the common hawks of this area, now are perching on fence posts and telephone poles in northern Illinois, their orange bodies and gray wings providing variation for the red and blue hues of the cardinals, bluebirds, blue jays, robins, and other hardy songsters.

The person who first called the sparrow hawk by that name may have used the title to describe the bird's size or its feeding habits. It is one of the small members of the hawk family, just as the sparrow is one of the small members of the songbird clan.

Adult sparrow hawks are nine to ten inches long. If the bird was named because of its occasional habit of feeding on sparrows, the title is undeserved, since small birds make up only a small portion of this hawk's diet.

We recall only one instance of seeing a sparrow hawk carrying a sparrow. That was last spring. A male bird flew across Maramy road on the Wheaton farm, and when we stopped to watch him he flew excitedly into a wire fence. Upon hitting the fence, the sparrow hawk dropped a bird he had been carrying. It was a white-throated sparrow, one of the attractive migrants which passes through this area in April and May.

Evidence indicates that the sparrow hawk turns to the capture of small birds only when other foods are not available. This attractive little bird lives mainly on grasshoppers, spiders, other insects, reptiles, and mice, with the grasshopper his main course when available.

Illinois conservationists gradually are educating the farmer and sportsman to the fact that all hawks are not bad hawks. The state department of conservation has banned the shooting of all species of hawks, and the Illinois natural history survey has pointed out that hawks consume so many rodents and insects that they more than pay for the small amount of damage done by an outlaw bird which may occasionally kill young poultry or game birds.—Ben Markland in "Day by Day on the Farm," *Chicago Daily Tribune*, April 10, 1944.

Purple Martins in Blue Island

AN ANNUAL SURVEY of the purple martin population nesting in his vicinity has been one of the projects which Karl E. Bartel, the Blue Island bird bander, has set up for himself. His records now cover the nine years since 1936. The number of active houses has varied from 28 to 40 in service in each year out of a total of 70 locations during the entire period, and the number of nesting pairs of martins has varied from a low of 151 to last year's total of 330, as shown by the following table:

<i>Year</i>	<i>Locations</i>	<i>Nesting pairs</i>	<i>Average per house</i>
1936.....	29.....	193.....	6.65
1937.....	28.....	151.....	5.40
1938.....	29.....	212.....	7.03
1939.....	31.....	252.....	8.13
1940.....	35.....	266.....	7.60
1941.....	38.....	292.....	7.68
1942.....	40.....	305.....	7.62
1943.....	36.....	287.....	7.97
1944.....	35.....	330.....	9.43
<hr/>			
TOTAL.....	301.....	2288.....	7.60

The average for each location shows a very consistent level, except for a small rise in 1939, until the past year, when there was a very definite increase. This did not come from the houses that had been occupied for several years, but rather from those which had been erected in the last two or three years. Some of these increased their population by from 50% to as much as 90%, thus more than offsetting the loss from houses that were taken down.



Christmas Census — 1944

ONCE MORE the season of the Christmas census has come and gone, and in passing found many of our bird students in the field in spite of the unusual amount of snow and temperatures that tempted one to stay close to the radiators. That those who did join in the search were rewarded is shown in the lists sent in, which show a combined total of 75 species and about 15,000 individuals from nine reports, as compared with 45 species and less than 4,000 individuals from seven reports in 1943. This is partly to be credited to Springfield, not present last year, which shows some 18 species not on any other list and is the site of a rather large winter flock of starlings.

We also give a report (not included in the totals) from one of our former Chicago bird students which was gathered under quite different conditions of weather and habitat. We do not know whether Lieut. Collias is trying to make us envious or just whetting our appetites for the time when we may move about more freely, but he is quite definitely doing both.

Blue Island, Cook County. In the vicinity of Mt. Hope, Mt. Greenwood and Mt. Olivet Cemeteries; Dec. 25; 12:00 P.M. to 3:00 P.M.; ground covered with snow; clear; southwest wind; temperature 24°; three miles on foot, ten by car; the cemeteries are adjacent to each other with only a road between: Mt. Hope, 3 crows; 1 starling; 8 juncos; 3 tree sparrows; Mt. Olivet, 1 hairy woodpecker; Mt. Greenwood, 2 herring gulls; total, 6 species, 18 individuals. At Mt. Hope there was evidence that an owl had been sitting in a pine tree the day before.—KARL E. BARTEL.

Blue Island, Cook County. In the vicinity of Oak Hill banding station and fields south and east; Dec. 20 to Jan. 1; ground covered with snow; temperature ranging from 30° to -7°; list shows largest number seen in any one day: 1 Cooper's hawk; 1 red-shouldered hawk; 1 rough-legged hawk; 1 marsh hawk; 1 sparrow hawk; 18 bob-whites; 6 pheasants; 300+ herring gulls; 1 barn owl; 1 hairy woodpecker; 8 downy woodpeckers; 3 blue jays; 6 crows; 3 black-capped chickadees; 7 tufted titmice; 2 white-breasted nuthatches; 1 brown creeper; 1 robin; 100+ starlings; 25 English sparrows; 4 cardinals; 4 goldfinches; 60 juncos; 15 tree sparrows; 1 white-throated sparrow; 7 song sparrows; total, 26 species, 1479+ individuals. The robin was heard and seen the day it was 7° below, Dec. 26; the white-throated sparrow was caught in the banding trap and had been banded on Nov. 5, 1944.—KARL E. BARTEL.

Glen Ellyn, DuPage County. Glen Ellyn, Arboretum and vicinity; Dec. 28; 9:00 A.M. to 3:30 P.M.; ground covered with about 8 inches of snow; sunshine to partly cloudy, with occasional snow flurries in P.M.; temperature 21°; wind 10-15 M.P.H.: 2 red-tailed hawks; 2 herring gulls; 3 hairy woodpeckers; 11 downy woodpeckers; 1 red-bellied woodpecker; 2 blue jays; 41 crows; 2 bronzed grackles; 19 chickadees; 3 tufted titmice; 3 white-breasted nuthatches; 1 robin; 37 starlings; 71 English sparrows; 14 cardinals; 33 juncos; 16 tree sparrows; 1 song sparrow; total, 18 species, 262 individuals. Should like to report a towhee observed about the home of Mrs. R. A. Van Lone from Dec. 17 to Dec. 24.—BENJAMIN T. GAULT BIRD CLUB, MESDAMES CHOYCE, HOMAN, STRASSHEIM, STOFER and VAN LONE.

Joliet, Will County. Pilcher Park Arboretum; Dec. 28; 10:30 A.M. to 3:30 P.M.; deep snow; clear; slight west wind; temperature 19° at start, 24° at the end; three miles on foot, 12 by car: 3 red-tailed hawks; 1 sparrow hawk; 7 pheasants; 1 herring gull; 2 barn owls; 2 long-eared owls; 1 hairy woodpecker; 4 downy woodpeckers; 14 crows; 3 chickadees; 4 starlings; 30 English sparrows; 12 cardinals; 150+ juncos; 200+ tree sparrows; 1 song sparrow; total, 17 species, 437+ individuals. While watching the sparrow hawk we were startled to have it hover only about 20 feet from us and then pick up a mouse.—MRS. GELATIS, MRS. BALDWIN, KARL E. BARTEL.

Lake Geneva, Wisconsin. Around entire lake (lake front 30%, cattail marsh 10%, swampland 25%, open farmland 5%, deciduous woods 30%); Dec. 26; 7:45 A.M. to 5:00 P.M.; 8" powdery snow; clear; no wind; west half of lake open; temperature -21° at start, 0° at finish; observers together; total miles, 32 (25 by car, 7 on foot): 250+ Canada geese; 300+

mallards; 150+ black ducks; 2 canvas-backs; 7 greater scaups; 550+ golden-eyes; 1 bufflehead; 3 hooded mergansers; 75 American mergansers; 2 red-tailed hawks; 1 red-shouldered hawk; 1 rough-legged hawk; 9 ring-necked pheasants; 72 coots; 46 herring gulls; 1 hairy woodpecker; 18 downy woodpeckers; 3 blue jays; 62 crows; 46 chickadees; 7 white-breasted nuthatches; 1 brown creeper; 33 starlings; 21 English sparrows; 5 cardinals; 6 goldfinches; 1 vesper sparrow; 6 juncos; 1 tree sparrow; 1 song sparrow; 1 Lapland longspur; total, 31 species, 1682+ individuals. Due to the sudden cold wave, the lake was steaming badly and we could not identify large numbers of ducks far out in the lake.—EARL ANDERSON, C. O. PALMQUIST.

Lisle, DuPage County. Morton Arboretum; Dec. 31; 9:30 A.M. to 4:30 P.M.; deep snow; cloudy; southwest wind; temperature 30° to 33°; five miles on foot, nine by car: 1 red-tailed hawk; 7 pheasants; 2 herring gulls; 1 horned owl; 10 long-eared owls; 6 hairy woodpeckers; 5 downy woodpeckers; 3 blue jays; 60 crows; 7 chickadees; 1 brown creeper; 4 robins; 3 golden-crowned kinglets; 5 starlings; 3 English sparrows; 6 cardinals; 2 pine siskins; 7 goldfinches; 11 juncos; 1 tree sparrow; total, 21 species, 146 individuals.—Chicago Ornithological Society, KARL E. BARTEL, Field Chairman, and MRS. LILLY, MISS STEBBINS, MRS. GELATIS, MR. and MRS. THORPE, MR. WARD, CHARLES WARD and CRAG OREAR.

Palos, Cook County. Around Palos banding stations; Dec. 30; temperature 28°: 3 hairy woodpeckers; 24 downy woodpeckers; 32 chickadees; 9 tufted titmice; 10 white-breasted nuthatches; 19 juncos; the birds listed above were trapped; the following were seen and not trapped: 1 red-shouldered hawk; 1 marsh hawk; 3 blue jays; 10 crows; 1 robin (McQuarrie); 30 English sparrows; 7 cardinals; total, 13 species, 150 individuals.—KARL E. BARTEL, FREDERICK C. LABAHN, JR.

Springfield, Sangamon County. An area of 7½ miles radius with Springfield as the center, including Lake Springfield and the Carpenter Park and Clear Lake regions along the Sangamon River (same area as covered for the past 11 years), 50% river woods, 17% open lake shore, 9% river marsh and 12 city parks; Dec. 29; dawn to dusk; cloudy; temperature 20-30°; wind ESE, 0-10 m.p.h.; 6-8 inches of snow; lake, river and streams frozen with a few open holes; 10 observers in five parties, one watcher at a feeding station; total hours, 36 (1 on foot, 35 in car); total miles, 101 (80 by car, mostly to and from territories, 21 on foot): 1625 mallards; 75 black ducks; 1 golden-eye; 1 Cooper's hawk; 1 red-shouldered hawk; 1 red-tailed hawk; 1 marsh hawk; 2 sparrow hawks; 45 bob-whites (3 coveys); 1 herring gull (immature); 1 ring-billed gull; 11 rock doves; 4 mourning doves; 4 barred owls; 1 screech owl; 3 kingfishers; 7 flickers; 29 red-bellied woodpeckers; 1 red-headed woodpecker; 1 yellow-bellied sapsucker (present for several weeks at park feeding station—E. B.); 12 hairy woodpeckers; 66 downy woodpeckers; 8 prairie horned larks; 83 blue jays; 125 crows; 126 chickadees; 203 titmice; 52 nuthatches; 26 brown creepers; 32 Carolina wrens; 1 mockingbird; 1 robin; 1 hermit thrush (seen at close range with 8X glasses); 19 bluebirds (unusual number seen by several parties); 31 golden-crowned kinglets; 6 cedar waxwings; 5,000+ starlings (on the city dump); 1,000+ English sparrows; 4 eastern meadow-

larks; 1 eastern red-wing; 162 cardinals; 4 purple finches; 40 goldfinches; 5 towhees ((in two groups, 3 male and 2 female—B. R.); 365 juncos; 1 white-throated sparrow; 1 fox sparrow; 5 swamp sparrows; 77 song sparrows; seen on the area Dec. 26 were 1 long-eared owl and 1 northern shrike—first county records; total, 50 species, 9419+ individuals.—OPAL RIPPEY, CHRISTINE BONNEY, BEATRICE HOPWOOD, ELIZABETH BAUM, CORA McELROY, SARAH WARE, ELIZABETH WARE, VIRGINIA S. EIFERT, LOIS HARDBARGER, EDITH SUTTON, BILL ROBERTSON.

Waukegan, Lake County. Lake Michigan, harbor, surrounding woods and fields, open water lake at Illinois Northern Public Service Plant; Dec. 29; 10:30 A.M. to 4:00 P.M.; cloudy with heavy mist; temperature 30° to 34°; wind northwest; ground covered with 4-6 inches of snow; lake and harbor frozen except for a few patches of open water; total miles, 35 (34 in car, 1 on foot); 3 observers in one party: 30 mallards; 4 black ducks; 1 gadwall; 2 green-winged teal; 1 ring-necked duck; 300 lesser scaup ducks; 60 American golden-eyes; 2 buffle-heads; 2 ruddy ducks; 100 American mergansers; 150 red-breasted mergansers; 1 red-tailed hawk; 5 pheasants; 1 coot; 550 herring gulls; 1 long-eared owl (found freshly shot); 1 short-eared owl; 1 downy woodpecker; 30 crows; 15 starlings; 40 English sparrows; 3 bronzed grackles; 1 cardinal; 14 goldfinches; 4 juncos; 65 tree sparrows; 2 song sparrows; total, 27 species, 1,386 individuals. The unusual number of ducks was due to a lake at the power plant which remains open the year around.—DR. ALFRED LEWY, SIDNEY STEIN, JR., JAMES D. WATSON, JR.

The following report from Lieut. Collias, formerly of Chicago, while not covering the Illinois area, is included as evidence that army service does not lessen the interest, and to show some of the different conditions our friends are meeting with while away from home.

Laredo, Texas, and by car in Laredo Air Range along the Rio Grande River to Air Range Headquarters at Chupadera Ranch, which lies about 60 miles northwest of Laredo; Dec. 25, 30 and 31; weather varied from very cloudy with a slight rain to clear and sunny; wind very gentle to very strong; temperature 40° to 70°; two hours on foot at Laredo and two hours on foot near Chupadera Ranch; arid country, covered with chaparral and various kinds of cactus plants, particularly prickly pear: 1 great blue heron; 8 pintails; 2 canvas-backs; 1 gadwall; 12 Canada geese; 8 black vultures; 1 turkey vulture; 1 Cooper's hawk; 1 red-tailed hawk; 1 marsh hawk; 2 sparrow hawks; 6 killdeers; 1 long-billed curlew (heard); 1 Wilson's snipe; 16 mourning doves; 5 Mexican ground doves; 2 western horned owls; 1 belted kingfisher; 3 house wrens; 20 western mockingbirds; 21 white-rumped shrikes; 4 myrtle warblers; 18 house sparrows; 140 meadowlarks (not singing and in scattered flocks, usually small); 30 red-wings; 5 great-tailed grackles; 2 cardinals; 15 vesper sparrows; 6 lark sparrows; 12 essentially western species were also observed; 8 Harris' hawks; 26 chestnut-bellied scaled quail (3 flocks); 1 Texas woodpecker; 2 golden-fronted woodpeckers; 2 vermilion flycatchers; 1 white-necked raven; 1 verdin; 6 cactus wrens; 13 pyrrhuloxias; 150 lark buntings (3 flocks); 13 black-throated sparrows; 3 clay-colored sparrows; total, 41 species, 560 individuals.—NICHOLAS E. COLLIAS, Laredo Army Air Field, Laredo, Texas.

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It is a corporation organized in 1897, not for profit, under the laws of the State of Illinois, for the study and protection of wild birdlife.

It aims to encourage the study of our native wild birds, to increase the appreciation of their aesthetic and economic values, and to work for their safety through education.

All lovers of birds are welcomed to its membership upon signing an application and paying membership dues. All dues and bequests other than those paid annually are held in an Endowment Fund, only the income from which is used for current needs, and there are no paid officers.

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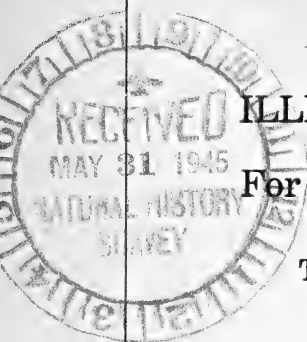
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THE AUDUBON BULLETIN





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ILLINOIS AUDUBON SOCIETY
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For the Protection of Wild Birds

Affiliated with

The Chicago Academy of Sciences

2001 NORTH CLARK STREET

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Bird Behavior

By LILLIAN CRAMP

THIS PIECE about bird behavior, is written from our home in the mountains of western North Carolina, and is about our birds here. Location probably has nothing to do with their behavior or disposition. Either varies with the individual. Feeding them may modify or exaggerate natural tendencies.

Our song sparrows stay all the year round, and they have come to consider the big flat rock in the back yard their special private feeding ground. One, especially, does his best to drive all other birds away. I saw him spread his wings, open his mouth, and run at a female cardinal. She looked astonished, but flew away. Another female cardinal landed just then, and, crouching low, she walked toward the sparrow with open mouth. She backed him right off the rock to the ground. That particular red bird is ill-tempered and quarrelsome. During summer, when the babies are being fed, she feeds the little girl babies and father feeds the sons. If a small male asks mother for food she dabs at him as though he were no relative of hers. Another pair that come to feed, but live in another part of the woods, are as sweet-tempered and gentle as can be. If our pair happens to see them there is a chase.

Every spring we have a feud, or triangle, or some sort of robin trouble. It is most likely a fight over territory, for I have seen the one that nests on my neighbor's grounds escort mine to the line between the two places, then retire to his own side. But at the start of the season the two males start at daylight and follow each other around till dark. Now and then they fly at each other, but most of the time they just run along one about a foot behind the other, panting and exhausted. One day a third male joined the feud. My robin was distracted. He made little dashes first at one and then at the other. If he turned his back on the newcomer to go after the battle-scarred next-door fellow, the new one flew at him. He didn't know which way to turn. He built eventually in a rose vine under our eaves. We didn't think much of him as a neighbor. The female flew off the nest shrieking every time we went outside the door. The male chased every bird that flew past. It began to look as though the two robins were the only birds we would have that year. He even sat on the feeding shelf, hunched up and grouchy, apparently for the sole purpose of keeping other birds away. The one nice thing about him is his habit of sitting in the top of the tallest tree and singing goodnight to the setting sun.

Downy woodpecker is one who minds his own affairs, molests no one, comes shyly to get a bit of suet, but spends most of his time digging

insect pests or their eggs out of the trees. He seems wholly beneficial and has a remarkably nice disposition. The field sparrows, too, feed at the big rock all winter in little flocks, and I have never seen one make a pass at another bird. Quite different from the juncos and the white-throated sparrows, who quarrel among themselves constantly.

Chewinks are perfect gentlemen, and very handsome ones with their velvety black heads and bibs. They scratch among the leaves with both feet, call their cheerful "twee-ee," and come to the shelves all winter. The lovely brown female doesn't stay here in winter. One of the funniest things I have seen was a male chewink's courting display. He spread his wings and tail, dragging them on the ground as a turkey does. That, and the antics of mockingbirds in spring, when two of them do a dance, are very funny. The mockers prance up to each other, back off, wings dangling, and keep up this performance till something drives them away. I have seen them do it on a telephone wire. Our mocker stays around as long as there are any persimmons left on the tree. He doesn't care for the feeding-shelf fare. One very windy day he sat in the tip of a tall lombardy poplar tree, swinging with the gale, using his wings to balance himself. He acted as though he were having a game.

A hairy woodpecker found borers in one of our rustic porch posts. He hammered at it, stripping off chunks of bark till the floor was covered with it. We wondered if there would be any post left when he got through. On stormy days he was under shelter there. We could always count on him to start work when it rained or snowed. The suet stick, now filled with peanut butter because of the shortage of suet, is a great favorite. The chickadees can hardly wait for me to fill it. They buzz around my head and come and sit on the porch rail not a foot away, chattering all the time. Often there are a cardinal, two chickadees and a tit on the perches at one time, all busily eating peanut butter. When nuthatch comes most of the other birds leave. He has a wicked long bill, and a disposition to match.

Blue jays are especially bold and daring, but they are also wary. A motion of the hand sends them flying. They are such terrific pigs at the shelf, gobbling all they can carry away in their beaks, that they are never welcome guests. They are the bane of any one trying to see birds in the woods, for they scream an alarm that sends everything into hiding. They destroy eggs and young of other birds. Our robins have learned that and all join to chase any jay that comes near a nest. The only thing in their favor is their gay coloring.

The Carolina wren is unafraid and full of curiosity. It goes into any place that has an open door. It is under porches, in coal sheds, into corners everywhere, in search of spiders. One of ours got shut in a work shop for the night. It couldn't be coaxed out, so the owner shut the door. In the morning it was between the shade and the glass of the window, looking out, and its mate, on the outside, was making a great to-do. One built in a sack in a tool shed, and was constantly disturbed by the coming and going of the owner, but the wren only came out to look him over and went back to her nest. The rollicking song is one of the bright spots all winter.

Baby chipping sparrows are the most demanding offspring on the shelf. I have seen four greedy, fat little fellows about run the thin little mother ragged. They crowded around her, pink mouths gaping, wings a-shiver, literally pushing her off the shelf. They never get filled up, and squeak all day long. One day the mother stood on a small perch above her infant and crammed cracked corn into its greedy mouth as fast as she could pick it up. I expected to see the little bird explode. He kept right on squeaking and shivering his wings till at last she stopped, gave him a long look and flew away. The little wretch stopped squeaking and fed himself.

The worst actor among the birds we have is the common house sparrow. Aside from his dirty, noisy habits, I have such a violent dislike of him that it is hard to write about him. One of my reasons for this feeling is that I had a pair of bluebirds nesting in a house that we put up for them. They had four baby birds. One morning I heard the bluebirds crying and making a great fuss, and when I looked out they were dashing to the house and away again as though terrified. I went out and found a male house sparrow in the house. He flew out as I came near, but came right back, squawking and acting like something possessed! He had killed and thrown out all the baby birds. I was just sick about it. The bluebirds are such gentle in-offensive things. In a few days the sparrows built in the box. We decided to wait till there were eggs and destroy them. One night we covered the opening and trapped the hen. She played possum and seemed to be dead. We foolishly emptied the box, eggs and all, in the dump. Away flew Mrs. sparrow. The bluebirds took over again, and this time the sparrow destroyed the eggs. We took the box down then. Whether it goes up again depends on whether we win our private war with the bird Nazis. They are clever, and murderous varmints. I keep a trap set now.

Hendersonville, North Carolina.



Bird Walks in Thatcher Woods

By ESTHER A. CRAIGMILE

ALEXANDER SPRUNT, JR., of the National Audubon Society, conducted field trips for bird study at Lake Okeechobee, Florida, in the spring of 1942. He is a great teacher and ranks first as a conservationist. What pleasure he took in showing students for the first time Florida warblers, yellow-throated warblers, Florida pileated woodpeckers, red-cockaded woodpeckers, Florida crows, brown-headed nuthatches, chuck-will's-widows, nesting Florida cranes, Florida clapper rails, aningas, caracaras, knots, dowitchers, white and glossy ibis, seven species of herons, white pelicans, and the limpkin! I went from St. Petersburg to spend two days in a station wagon touring along the lake and visiting the Kissimmee River Valley. Mrs. Wasson and Elizabeth were later attracted there, and during spring vacation in River Forest Mrs. Ellsworth Wescott and Charles were enrolled in Mr. Sprunt's tour.

Is it any wonder that this group became leaders in conducting field trips along the Des Plaines River the following spring? Mrs. John Shawvan also gave hearty support from the beginning. February 27, 1943, we met

for the first time. Winter is a desirable time to begin because there are few birds, and leafless trees make identification less difficult. The study of trees and shrubs without their foliage proved interesting. The temperature was below freezing and ice two to four inches thick covered the floodplain. Our party of nine kept on the higher ridges, startled many times by the loud cracking of the ice.

The group assembled each Saturday morning at ten o'clock and a short talk was given by one of the leaders on some pertinent problem of the fauna or flora. The session lasted two hours, but many loitered in the museum when the class was dismissed to study the live birds in Miss Moe's hospital. The saw-whet owl, screech owl, barred owl, great horned owl and short-eared owl have in turn been befriended by the curator. Mounted birds and eggs were also of interest. At present there is a young blue jay that can imitate the other inmates of the museum.

During the month of May it was found more desirable to meet from nine to eleven o'clock as the days lengthened. Pupils were encouraged to bring field glasses, bird books, and to take notes and keep weekly records. Many obtained the C. O. S. list of birds of the Chicago area and a small leaflet giving the list of winter residents and the arrivals for each spring month.

Due to the courteous publicity given by Dr. Gloyd, of the Chicago Academy of Sciences, earnest students came from Chicago, Western Springs, Elmhurst, Lombard, Berwyn, Maywood, Oak Park and River Forest. Several adults and scouts traveled two hours each way by trolley for our two-hour class. At the height of the spring migration the class numbered over one hundred. During the three months of 1943, 150 individuals were enrolled in the groups and 100 species of birds were identified. The season of 1944 showed an increase in interest. Weekly reports have been sent each season to the local papers, with indications that they have been appreciated by the public.

The first meeting in the 1945 season occurred April 7 at Trailside Museum, River Forest, located on the corner of Chicago Avenue and Thatcher, two blocks north of Lake Street. The time was 9:30 to 11:30, and it was under the direction of Mrs. Theron Wasson and other competent leaders.

Here are a few notes selected from the 1943 and 1944 reports:

February 27, 1943—White-breasted nuthatch, tufted titmouse, crow, cardinal, English sparrow, starling, ring-necked pheasant, sparrow hawk, downy woodpecker, herring and ring-billed gulls were observed. A blue jay called in the distance. Studies were continued at Mrs. Wasson's bird counter. Downy woodpeckers entertained us outside as we ate a delicious luncheon. Later we saw delightful colored movies of the Audubon school for bird study on Hog Island, Maine, which Mrs. Wasson and Elizabeth attended last summer.

March 6—Driving snow and a temperature of 12 were not enticing for tramping. Yet eight members assembled at Trailside Museum where a mourning dove sang jubilantly. Birds remain under cover and go hungry during a blizzard. We found only six species; the hairy woodpecker and

juncto were added to our previous list. * * * The great event of the trip was the study of an Indian mound. It is about 100 feet long and four or five feet high. It resembles a snake with distended jaws and a round object in front, through which a tree has grown. Mr. Wasson discovered it while making a survey of the area, and it may be an Indian ceremonial mound.

March 13—In spite of the cold, disagreeable weather 16 members reported for the Audubon hike. Only seven winter birds were observed and an opossum. The Indian mound was visited again.

March 20—Today the group numbered 21, coming from Western Springs, Chicago, Oak Park, Maywood and River Forest. Two score species were listed; besides the winter residents, spring records began. Among them a bald eagle was most obliging, soaring just over the tree tops, displaying beautifully its snow white head and tail.

March 27—Nearly 50 individuals made up the Audubon class Saturday. The soft maples were in bloom and the elm trees had attractive brown feather decorations. The big showy northern robins which interested us so much last week were replaced by our summer residents. How boldly the plump migrants ate the fleshy staghorn sumac seeds to give them energy for pressing northward. (A list of 29 species observed is given.)

April 24—More than 100 persons have responded to the invitation to join the Audubon trips in Thatcher Woods since late February, and 43 species of birds have been identified. It is surprising what changes in the bird population occur from week to week. Juncos numbered 100 April 3; April 24 six were seen. Cowbirds have increased noticeably during the month; flickers have grown in numbers and are busy with mating antics, even to drumming on metal in the wee morning hours; hermit thrushes and fox sparrows have gone further north; few kinglets were seen on April 24; myrtle warblers so prevalent April 17 were all gone a week later. New hawks observed are red-shouldered, red-tailed and sharp-shinned. Two handsome great blue herons flapped deliberately over the tree tops. Little green heron will soon be back to feed along the shore and nest in the hawthorns near the river. A marked movement northward must have occurred this week. Palm and black-and-white warblers were conspicuous by their absence.

Early May will bring to us hosts of summer residents and migrants northward bound. Warblers time their arrival with the opening of the first fruit blossoms and do much in destroying insects, larvæ, and insects' eggs. We may expect 30 species of warblers like so many gay butterflies. Cubans call warblers "mariposa," meaning butterflies. "Candelita" is their appropriate name for redstart. A half dozen flycatchers will be appearing. By Decoration Day the migrants will have disappeared and summer residents will prevail until August, when the return south will begin.

May 1—It was a chilly, sunny May 1st with ruby-crowned kinglets in full song as they darted about for insects, or glared with ruby crest erect at a rival. Flocks of white-throated sparrows scratched noisily among the leaves or sang their mournful songs. Chewinks or towhees, too, announced their presence with call note and song as they scratched with both feet at

once, stirring up the leaves like an old hen. The thrill of Thatcher Woods was the discovery of 25 white trilliums in bud, and two bunches of hepatica. What a dream of beauty this woodland must have been in pioneer days! Fragrant, dainty wild plum trees add a charm to the forest preserve now, as does the carpet of spring beauties. *Mertensia* (bluebells) will be its loveliest this week. You may find a hummingbird there feeding on the nectar.

May 22—In spite of an overflowing Des Plaines, an enthusiastic group assembled at 9 a.m. What a morning it was! Dainty pink wild crabapples and hawthorns were poems of beauty. The rose-pink of the unfolding leaves of the white oak was given additional charm by gorgeous scarlet tanagers and indigo buntings, rivaling sapphires in their beauty, to say nothing of their exultant songs. Large flocks of bright goldfinches decorated the hawthorns, advertising their presence with "sweet" songs. Warblers were slow to arrive, but backward foliage has made their identification a joy. Redstarts were on parade and more easily named than some warblers. Chuck Wescott even saw a prothonotary, while Mrs. Wasson found a golden-winged, blue-winged, and the hybrid Brewster's. A C. O. S. member reported the Lawrence warbler, another rare hybrid.

March 17, 1944, marked an unusual flight of Canada geese over the Flag Creek valley. One noisy flock of 200 was in one long line instead of the V formation. One is surprised to hear over the radio, or even in Rutledge's contributions, that some people do not yet know that these "honkers" change leaders from time to time. The sharp angle is a difficult position for the leader which breaks the pathway through the air. Birds toward the end of the lines are carried along by the currents of air.

April 8—After the long, gray, cold spring it was good to be in Thatcher Woods Saturday morning. The day was sunny and mild, the air full of bird notes. Twenty-five people gathered and were rewarded with 30 species of birds, including five new ones this week and several that have become abundant during the week.

April 15—Twenty-six species were identified. The rarest treat of the morning was the flute-like song of the hermit thrush on Edgewood lawns. He gave two encores. It seldom sings in migration, perching low and bobbing its bright brown tail as it lights. Treetops and shrubs twinkled with kinglets snatching breakfast on the wing and displaying golden and ruby crowns at pleasure. The high, shrill notes of the golden-crowned were omnipresent. Ruby did not sing his melodious warble, sounding much too loud for so small a bird. Chewink or towhee, as well as the fox sparrow, were heard in the thickets. It is fun to watch them scratch with both feet at once.

Brown creepers were abundant. Many were so exhausted from flight that they took naps between morsels of food. Our group stood watching them so close we could have touched them. They were just like tired babies going to sleep in the high chair at meal time. Flocks of myrtle warblers gave their "pit" of alarm as they darted after insects. Often they were so close they displayed the four marks of yellow on crown, rump and either side of the breast. Bluebirds have established nesting quarters along the river.

If only they can hold their own against the starlings that often usurp their nests.

April 29—Our best record was last. An osprey or fish hawk soared above the river well above the tree tops. Like a flash it disappeared, but its profile against the sky was the replica of that in Roger Tory Peterson's "Field Guide."

Oak Park, Illinois.



A Flight of Cranes

WHILE WALKING ACROSS the Dunes near Baileytown, Indiana, with Dr. and Mrs. and Miss Bacon and Mr. Kemp on April 2, Dr. Alfred Lewy heard calls from the air and when he looked up saw a flock of 14 cranes in their usual V formation. The flock was broken up by a plane crossing the line of flight, which was southwest and against a strong wind. At the same time they also observed two other groups, of 17 and 11 respectively, which were broken up by the approach of a second plane, all of the birds milling around without any order. After a short time the flocks reformed into the three original groups of 14, 17 and 11 birds and continued their flight to the southwest. All of the flocks were flying at about the usual height of transport planes, approximately one mile.



The 1944—45 Lecture Series

IN THE FALL MONTHS of 1944 and spring months of 1945 the Illinois Audubon Society sponsored a series of lectures in cooperation with the National Audubon Society. These were very well received by our members, their families and friends. In at least one instance all seats in the auditorium of the Chicago Academy of Sciences were taken, all available standing room was filled, and quite a number stood in the lobby and looked and listened from outside the hall.

C. A. (Bert) Harwell, of California, opened the series October 7, 1944, with "Music of the Out-of-doors," illustrating his talk with color-movies of the west and southwest and his whistled imitations of the songs of the birds.

John H. Storer, of Massachusetts, appeared November 15 and enchanted his audience with a program of wildlife studies, all in color and all in slow motion, that ranged from Florida to Washington and from Texas to Maine. His pictures of birds in flight in slow motion were something to marvel at and to be long remembered for their beauty.

Alexander Sprunt, Jr., of Charleston, S. C., started 1945 off very nicely with a lecture on "Wildlife from Texas to Chicago" on January 5, in which he featured the colorful roseate spoonbill. Mr. Sprunt correlates the study of our wildlife with the over-all conservation movement and makes clear its importance and that its necessity is the business of all of us.

Murl Deusing, of Milwaukee, Wis., showing "Bright Feathers" on February 9, brought to us the season by season story of a number of our more common birds that nest in Northern Wisconsin, Door County in par-

ticular. Sequences showing the feeding of the nestlings were especially admired, and demonstrated both Mr. Deusing's patience and his photographic ability.

Alfred M. Bailey, of Denver, Colo., came to us March 27 for his annual visit and told us of the "High Country" and the life at altitudes varying from 5,000 to 12,000 feet. His studies of the pine grosbeak, with slow motions of the feeding of the young, and the beautiful shots of the mountain sheep were just what we have learned through many years to expect from him.

Olin S. Pettingill, Jr., of Northfield, Minn., closed the series April 13 with his all-color film, "Everyday Wildlife," which he prefers to call "Growing Feathers." He traced some of the characteristic facts in the lives of young birds to their logical origin in their prehistoric reptilian ancestors, and showed how some unusual forms are acquired after hatching, such as the long, up-turned bill of the avocet, the spatulate bill of the spoonbill, and the quite remarkable bill of the pelican. Altogether it was one of the most informative, as well as entertaining, lectures we have ever sponsored.

Approximately 2,000 members and friends were fortunate enough to be present and hear these several outstanding nature lecturers. We believe that those persons are as a result better observers and better conservationists; that the Society is accomplishing one of its major objectives, the spreading of the knowledge of wildlife; and we know that you who support the work of the Society with your time and money are making this possible.

A similar series of lectures is being arranged for the coming season of 1945-46, and we ask your continued support. Speaking quite plainly, your dues and those of your friends whom you induce to become associated with us are what will make the program possible.



A Belated Migrant

*One hazy, warm, gay-foliaged, autumn day,
A small brown bird of proudful ancestry,
Lured by a bird-bath and a cherry tree,
Dropped down for lunch while on it's southward way.
It's crown was striped with white and velvet-black;
Beneath it's bill was throat of pearly white—
A perfect field-mark in the waning light—
A migrant white-throat off the beaten track.*

*Once heard, it's high-pitched, whistled roundelay,
Ventriloqual and plaintive, loud and clear,
Becomes a cherished, haunting memory
Of days in forest deep, with no one near.
When white-throats voice their half-toned melody,
No other sparrow's song seems half so dear.*

—Orpheus M. Schantz

Key to Illinois Birds' Nests

THE FOLLOWING KEY to the identification of the nests of Illinois birds was selected and adapted by Rev. George M. Link from an arrangement by Dr. A. A. Allen. We reprint it now in the hope that it may be of some assistance to those interested in nests found after the close of the nesting season.

- On the ground or in tussocks of grass.....I
- In the ground (in burrows).....II
- Above ground, in bushes or trees, on cliffs, or about buildings:
 - Hanging or semi-pensile nests.....III
 - Not hanging:
 - In holes in trees or in bird-boxes.....IV
 - Not in holes:
 - Containing sticks or large twigs.....V
 - With no sticks:
 - Felted nests of cottony materials, not lichen covered.....VI
 - Not felted or lichen covered:
 - Containing an inner layer of mud.....VII
 - With no mud:
 - Covered with lichens.....VIII
 - With no lichens:
 - Mostly of bark, fibers, and rootlets, with or without horsehair lining.....IX
 - Mostly of grasses, rootlets, straws and leaves, usually with horsehair in the lining:
 - Not spherical.....X
 - Spherical nests.....XI

I. ON THE GROUND OR IN TUSSOCKS OF GRASS: These nests are seldom found except when occupied, and then can be identified by the birds. Only a list will be given:

 - In fields:* Bob-white, field sparrow, grasshopper sparrow, horned lark, killdeer, meadowlark, nighthawk, pheasant, savannah sparrow, song sparrow, spotted sandpiper, vesper sparrow, Henslow's sparrow, lark sparrow.
 - In woods:* Brown thrasher, Louisiana water thrush, mourning warbler, ovenbird, song sparrow, towhee, whip-poor-will, woodcock, pinewoods sparrow, Kentucky warbler.
 - In marshes:* Bittern, black duck, black tern, coot, Florida gallinule, king rail, marsh hawk, northern yellow-throat, pied-billed grebe, short-eared owl, sora rail, swamp sparrow, Virginia rail, Wilson's snipe.

II. IN BURROWS IN THE GROUND:

 - A. Nesting in colonies in sand banks.....Bank swallow
 - B. Nesting singly:
 - 1. Drilling own burrow, no nest at end.....Kingfisher
 - 2. Utilizing some other burrow, nest of strings and feathers....
.....Rough-winged swallow

III. HANGING OR SEMI-PENSILE NESTS:

 - A. In reeds or swamp bushes:
 - 1. Open above:
 - a. A platform only slightly hollowed.....Least bittern
 - b. Deeply hollowed.....Red-winged blackbird
 - 2. Spherical, opening on side..Long- and short-billed marsh wren
 - B. In upland bushes and trees:
 - 1. Small, less than 2 inches deep, fully suspended:
 - a. In berry bushes.....Bell's or white-eyed vireo
 - b. In low branches or saplings.....Red-eyed vireo

- c. In evergreens (usually).....Blue-headed vireo
 - d. In middle of tree.....Yellow-throated vireo
 - e. In tree top or outer branches.....Warbling vireo
 - 2. Small, semi-pensile, partially supported...Acadian flycatcher
 - 3. Larger, over 2 inches deep inside:
 - a. Of dried grasses, sometimes partially supported.....Orchard oriole
 - b. Of fibers, strings, and the like.....Baltimore oriole
- IV. IN HOLES IN TREES OR IN BIRD-BOXES:
- A. Nesting in colonies.....Purple martin
 - B. Nesting singly:
 - 1. Drilling holes, no nest at bottom:
 - a. Opening about 1½ inches.....Downy woodpecker
 - b. Opening about 1¾ inches.....Hairy woodpecker
 - c. Opening about 2 inches.....Red-headed woodpecker
 - d. Over 2 inches.....Flicker, red-bellied woodpecker
 - 2. Using old woodpecker holes or natural cavities of the same size or bird-houses with similar openings, building a nest at bottom of cavity.....Flying squirrel, white-footed deer mouse
 - a. Nest of sticks, lined with feathers.....House wren, Bewick's wren, Carolina wren
 - b. Nest entirely of grasses.....Bluebird
 - c. Nest of straw and feathers:
 - Nest cuplike, open above.....Tree swallow
 - Spherical or partially arched...English sparrow, starling
 - d. Nest of fibers, moss, wool, feathers...Chickadee, nuthatch
 - e. Nest with many leaves.....Tufted titmouse, prothonotary warbler
 - f. Nest usually containing a cast snake skin.....Crested flycatcher
 - 3. Using flicker holes or natural cavities of similar size, no nest built.....Sparrow hawk, screech owl, saw-whet owl
 - 4. Using larger natural cavities.....Barn owl, barred owl, horned owl, wood duck
- V. CONTAINING STICKS OR LARGER TWIGS:
- A. Bulky nests in trees, 16 to 60 inches outside diameter:
 - 1. Very large, 30 to 60.....Osprey, bald eagle
 - 2. Smaller, no lining, flat.....Heron
 - 3. Hollowed, lining of bark.....Crow, great-horned and long-eared owls
 - 4. Hollowed, lining of fresh leaves or evergreens.....Red-shouldered, red-tailed, Cooper's, sharp-shinned hawks
 - 5. Spherical nests.....Squirrels
 - B. Smaller, less than 15 inches outside:
 - 1. Cuplike, in hollow trees, chimneys or silos...Chimney swifts
 - 2. Otherwise:
 - a. Platform, very shallow:
 - No lining.....Mourning dove
 - A little lining.....Cuckoo
 - b. Deeply hollowed, 1 to 3 inches deep, in thickets or scrubby trees, under 3½ inches inside diameter:
 - Lining of leaves and rootlets, over 3 inches inside.....Mockingbird, brown thrasher
 - 3 inches or less inside.....Catbird
 - Lining of bark and wool.....Migrant shrike
 - In trees, usually evergreen, over 3½ inches inside diameter.....Blue jay
- VI. FELTED NESTS OF COTTONY MATERIAL:
- A. Nests wider than high, with thistledown.....Goldfinch
 - B. Nests higher than wide, no thistledown:

1. Thick-walled, usually in vertical fork of bush or tree..... Yellow warbler
2. Thick-walled, usually on horizontal branch of apple or similar tree, usually decorated with bits of paper...Least flycatcher
3. Thin-walled, usually close to trunk of small sapling...Redstart

VII. CONTAINING A LAYER OF MUD:

A. Built in trees:

1. Of grasses and mud, usually no moss or dead leaves:
 - a. Under 4 inches diameter inside.....Robin
 - b. Over 4 inches inside diameter.....Bronzed grackle
2. Containing dead leaves, usually moss.....Wood thrush

B. Built on buildings, bridges or cliffs:

1. Outer layer of grasses, mud within:
 - a. Under 4 inches inside diameter.....Robin
 - b. Over 4 inches inside diameter.....Bronzed grackle
2. Outer layer of mud, some grasses:
 - a. Open at top, cup-shaped.....Barn swallow
 - b. Open at side, gourd-shaped.....Cliff swallow
3. Outer layer of moss and mud.....Phoebe

VIII. WITH AN OUTER COVERING OF LICHENS, SADDLED ON BRANCH:

- A. Very small, less than $1\frac{1}{2}$ inches outside diameter..... Ruby-throated hummingbird
- B. Larger, over $1\frac{1}{2}$ inches outside diameter:
 1. Very deep, over $1\frac{1}{2}$ inches.....Blue-gray gnatcatcher
 2. Shallow, under $1\frac{1}{2}$ inches.....Wood pewee

IX. MOSTLY OF BARK, FIBERS, AND ROOTLETS, WITH OR WITHOUT HORSEHAIR LININGS:

A. Usually thin, flimsy structures:

1. Little or no lining, usually in high bushes.....Rose-breasted grosbeak
2. Considerable lining, usually in trees.....Scarlet tanager
3. Considerable lining, usually in bushes.....Cardinal

B. Thick, well-formed, with some cotton or wool:

1. Shallow, about 1 inch deep.....Kingbird
2. Deeper, about $1\frac{1}{2}$ inches, usually with streamers of grass tops.....Cedar waxwing

X. MOSTLY OF GRASSES, ROOTLETS, STRAWS, AND LEAVES, USUALLY WITH HORSEHAIR IN THE LINING AND NOT SPHERICAL:

A. With many leaves, in weeds, ferns or low bushes:

1. Under 2 inches inside diameter.....Indigo bunting
2. Over 2 inches inside diameter:
 - a. Placed on mat of leaves.....Veery
 - b. Leaves woven into nest.....Yellow-breasted chat

B. With few or no leaves:

1. Less than $1\frac{3}{4}$ inches inside diameter:
 - a. Thick horsehair lining.....Chipping sparrow
 - b. With few hairs or none.....Field sparrow
2. Over 2 inches inside diameter:
 - a. With many or few hairs in lining.....Song sparrow
 - b. No hairs, a few leaves.....Yellow-breasted chat

XI. SPHERICAL NESTS OF GRASSES, BARKS OR FIBERS:

- A. On the ground, very thickly lined with soft grasses..... Meadow mouse
- B. In bushes or vines, usually in some old bird's nest and lined with cotton or wool.....Deermouse
- C. In trees or about buildings:
 1. Of bark and fibers, no lining, usually some leaves or sticks, often an old crow's nest.....Squirrel
 2. Grasses, lined with feathers.....House sparrow

In Need of Information

A RECENTLY PUBLISHED BOOK from the pen of Leonard Dubkin, "The Murmur of Wings," has been the cause of much criticism from qualified students of ornithology. They cannot agree with him in many of his statements as to the habits of wild birds, nor in his conclusions as to what is or is not good practice in bird protection. In fact, they feel that the book is entirely out of step with modern knowledge of their needs and reflects the ideas of a rank novice in the subject.

In the May issue of *Coronet* there are reproduced some splendid color photographs by Hal H. Harrison, of Tarentum, Pa., President of the Audubon Society of Western Pennsylvania. Unfortunately they are used in connection with a story by Mr. Dubkin which has evoked the following letter from Mrs. Margaret Morse Nice, one of the country's outstanding ornithologists, and which is given with her permission:

5727 Harper Avenue, Chicago,
May 1, 1945.

Editor of *Coronet*,
919 N. Michigan Ave.,
Chicago 11, Illinois.

Dear Sir:

Mr. Harrison's color photographs of birds in the May *Coronet* are superb, but Leonard Dubkin's accompanying story is an insult to intelligence.

We read of one woman who neglected her feeding shelf in cold weather, but nothing of the thousands of people who redouble their efforts at such times, and by so doing save many birds that would otherwise perish. We read of the iniquity of putting out colored ribbons for nesting material, thus making the robin's nest "a glaring landmark to all the cats in the neighborhood" (Mr. Dubkin does not seem to know that cats are color-blind), and of crows pulling the nest to pieces for the ribbons! What, pray, would crows want with ribbons? As for the cruel deed of planting shrubs for birds, our author evidently is unaware that that is one of the basic methods of management for game and song birds.

Mr. Dubkin would do well to get acquainted with the birds of his neighborhood; perhaps then he would not class cardinals and tufted tits as migratory. He has done a bad turn for the birds in whom he professes an interest. If it were not for the efforts of "bird lovers" in protecting them by legislation, by education, and with sanctuaries, the birds would have a hard time indeed. Far from "doing all right," they need more protection from their enemies and constant vigilance on the part of their friends.

Very truly yours,

MRS. MARGARET M. NICE

Nature's Scavengers

By C. O. DECKER

DOWN THROUGH THE AGES there has evolved a class of creatures with representatives in all varieties of natural surroundings, in the seas, on the land, and in the air, that we speak of as "scavengers" and think of as a "necessary evil." But, can anything that is really necessary be evil? The passing of open sewage disposal systems in modern communities does not end the necessity for the removal of solid matter liable to decay. All health authorities recognize this as a necessity, and therefore it cannot be evil. Animals, and even human beings, still die from disease, accident, or other causes, in such circumstances that the remains are left to the processes of nature for disposal. There Nature's scavengers come in.

In the economy of the ocean itself Crustacea are of great importance, for they act as the scavengers of the sea. The general term of "scavenger crab" refers to any crab which feeds on dead and decaying animal matter. Most crabs, among them the edible species, have this habit and are notably efficient in making away with carrion. On some parts of the Atlantic coast of the United States thousands of small fiddler crabs may be seen about a carcass; and on some sandy beaches a dead animal washed ashore is soon beset by a host of horseman crabs which mine the sand and live in these temporary burrows as long as the feast lasts.

In all oceans and on most shores we find numerous species of sea anemones that also assist in keeping the waters clean. They are distinguished by the cylindrical form of the body, which is soft, fleshy, and capable of dilation and contraction. The same aperture serves for both mouth and vent. There are sometimes as many as 200 tentacles by means of which the animal seizes and secures such food as may float within its reach. When expanded it has somewhat the appearance of a flower, but when touched the tentacles are quickly retracted within the mouth.

There are several species among the fishes that can be included as scavengers. The shark has been taken by deep sea fisherman after being attracted to the vicinity by dead animals thrown overboard as bait. Among the fresh water varieties the catfish and carp are commonly known as scavengers.

Reptiles as a class are not known to take dead or decaying food regularly, though they may do so occasionally or accidentally. As Dr. H. K. Gloyd has said, "Captive snakes sometimes can be persuaded to eat pieces of dead fish or chunks of meat, but it is doubtful if such baits would be taken in the freedom of the out-of-doors."

Among the insects the common house fly comes first to mind with the thought of carrion. And there are several species of insects that disable or kill others to give food to their young, which hatch from eggs deposited on or within the bodies. One of the beetles is commonly known as the burying beetle, sometimes as the sexton beetle, from its habit of burying the carcasses of small animals, such as mice, moles, or shrews, in which it has deposited its eggs.

Outstanding among the mammals as scavengers undoubtedly are the hyenas and jackals of southern Asia and Africa. The hyenas, though cowardly animals, have enormous strength of jaws and teeth and feed mainly on carrion, but will occasionally take sheep, goats or dogs. The jackal also will take living prey, but feeds largely on carrion and refuse of all kinds. They are nocturnal and quite frequently invade the streets of some cities in India where open sewers still exist. Another source of the jackal's food is the remains of carcasses left by lions and tigers after gorging themselves.

Central and South America are the homes of several varieties of armadillos, one of which, the nine-banded, comes as far north as Texas. They feed not only on insects, but on vegetable and animal food of almost every kind which by decomposition or otherwise has acquired sufficient softness. Some prefer the vegetable food, while others delight chiefly in carrion.

These creatures of land and sea, of which we have named but a representative few, are not the whole story. The birds of this and other lands also have their very large part among Nature's scavengers.

While the hawks normally feed on their own kill, we have all seen them rising from the roadway where they have been feeding on rabbits, gophers, or other small animals killed by passing automobiles. On a trip through western Canada a few years ago we were struck by the great number of Swainson's hawks perched along the roadside that had acquired this habit. We were told that for perhaps 20 miles back on either side one probably could not find a hawk. Caracara is the Brazilian name of certain large vulture-like hawks of South and Central America. They walk about on the ground feeding on carrion, and where food is abundant gather into large flocks. They are of much service as scavengers in the cattle herding regions of South America and have increased greatly. In Argentina one species, the carancho, is called the "carrion hawk."

Our own National Bird, the bald eagle, secures a good share of its food from the dead fish that it finds along the shores of streams and lakes which it frequents. But most of us are more familiar with the flocks of gulls patrolling the beaches for anything edible, and when not finding it there adjourning to the city dumping grounds to satisfy their appetites with anything in sight. No one who has once seen the swirling, screaming mass of gulls that congregates over a Gaspe beach when the refuse from the cleanings of a day's catch of codfish is thrown out will ever forget it, or cease wondering that so many hundreds of birds could maneuver in such a congested area without constant collisions (which, however, never seem to occur), or fail to recognize that here is one of the most efficient among Nature's scavengers.

Some of our small bird neighbors can be credited with some effort toward the removal of refuse in our streets and alleys. The English sparrow and the grackle are seen so commonly at it that we seldom think twice about them; but observers in Springfield, Ill., reported in the Christmas census a flock of at least 5,000 starlings gleaning a living from the city dumping ground. Sometimes we find the habit occurring in most unexpected places.

For instance, Victor H. Cahalane, of the National Park Service, writes in the October, 1944, *Auk*, "It is by no means unusual for the Clarke's nut-cracker to forage for food on the ground in winter. The bird frequently seeks out the carcasses of dead animals that may be more or less covered with snow."

Another of our common birds which exhibits the acquired taste that we have referred to in regard to the hawks, that of seeking out the remains of small animals killed on our roadways, is the crow. Seldom does one drive outside the city without seeing crows working over what was once a gopher or a snake. In England the "carrion crow" is a true crow, but is more solitary than here and eats not only carrion, but will attack weak animals and often eats the eggs and young of other birds. The small glossy crow of India and Ceylon frequents the towns, feeding on offal, and will boldly enter rooms through open windows to snatch some morsel from the dinner table. These birds, called "hooded crows" in English India, are a nuisance about camps and villages by their boldness and thievish ways.

The raven, a near relative of the common crow, was discussed by W. Bryant Tyrrell in the January, 1945, *Auk*, where he says, "The food of the raven consists of anything edible, alive or dead, which it can catch, kill, disable or pick up, and no doubt it is almost as varied as that of the crow, but the greater part is probably carrion, with small mammals next. An interesting incident regarding the raven's food was told to me by one of the park naturalists. He said that often in the early morning they would find the trash cans in the picnic areas overturned and the contents strewn about. They had always suspected the raccoons or opossums, but one morning they discovered that the culprits were ravens."

Kites are known mostly in the tropics, and of the 30 species but four are found in the United States. The common European kite is now nearly extinct in England, but in other days was a recognized scavenger of London and other English towns, devouring the offal, as it still does in some of the towns of eastern Europe. In India the pariah kite is one of the accepted and important scavenging birds of the country and abounds everywhere in the towns, going about tame and unharmed, and often making a nuisance of itself by its impudent familiarity.

The bird referred to in the Bible as an eagle is without doubt the one now known as the lammergeier, which has an eight- to ten-foot wingspread. While it really is an eagle, it has acquired the name of "bearded" or "griffon" vulture from its frequent use of carrion as food and because it often resorts to the remains of vultures' feasts to gather up and devour the scattered bones. It is reported that marrow bones are broken open by carrying them high in the air and letting them fall upon rocks.

The largest bird found in the United States, the California condor, with a wingspread of from 8½ to 11 feet, has been brought close to extinction through its extensive use of carrion for food. The practice of poisoning carcasses of cattle and sheep as bait for wolves and coyotes, together with the fact that their very size made them tempting targets, has so reduced them that there has been serious question as to their ability to survive.

But, above all these, when one thinks of a scavenger the bird that comes to the mind first and foremost is the vulture. As a group they are distinctly carrion-eating birds. They seldom attack a living animal, but may put to death the wounded or sick. They gorge themselves when prey is abundant till their crops form a projection, and then sit sleepy and half torpid to digest their food. The bareness of their heads and necks adapts them for feeding on putrid flesh by which feathers would be defiled. They are very careful to wash and cleanse their plumage. The question of whether the vulture detects its food by the sense of sight or of smell has been strongly debated in recent years without a definite answer, but Longfellow in "Hiawatha" has quite clearly recognized their power of vision:

*"Never stoops the soaring vulture
On his quarry in the desert,
On the sick or wounded bison,
But another vulture, watching
From his high aerial look-out,
Sees the downward plunge and follows;
And a third pursues the second,
Coming from the invisible ether,
First a speck, and then a vulture,
Till the air is dark with pinions."*

In the southern states and throughout the tropics the black vulture is especially common and is protected as an indispensable scavenger, and often becomes almost half domesticated. The Parsees and Zoroastrians of India deem them "heaven-sent birds" and expose the bodies of their dead on the famous Towers of Silence to be devoured by the vultures. These structures are open to the sky, and Zoroastrians maintain that they are a solution of the sanitary question.

Thus do these creatures of sea, land and air, and many others not named but equally efficient, serve to protect us from unpleasant sights and odors, and, what is more important, the dangers of disease and possible epidemics resulting from accumulations of putrescent matter. Should we look upon them with distaste when they are doing only what Nature and evolution through the centuries has best fitted them to do, just because that is something which we would not wish to do ourselves? While they may not seem to us agreeable, let us have some tolerance and a little respect for Nature's scavengers.



THE ROBIN is a wide, free feeder, boring in the turf for grubs and worms in summer, and taking up with cedar berries and hardhack drupes in winter. If a crop of locusts come in cherry time, he will spare your cherries. If a drouth drives the angleworms deep into the ground in August, look out for your grapes. The robin is wonderfully adaptive. If he does not find a tree to his liking, he will nest on the wall, or under your porch, or even on the ground. His colors are not brilliant, but the secret of his success lies in his courage, his force of character, so to speak, and his adaptability.—John Burroughs.

What is the ILLINOIS AUDUBON SOCIETY?



It is a corporation organized in 1897, not for profit, under the laws of the State of Illinois, for the study and protection of wild birdlife.

It aims to encourage the study of our native wild birds, to increase the appreciation of their aesthetic and economic values, and to work for their safety through education.

All lovers of birds are welcomed to its membership upon signing an application and paying membership dues. All dues and bequests other than those paid annually are held in an Endowment Fund, only the income from which is used for current needs, and there are no paid officers.

Under a ruling of the Commissioner of Internal Revenue contributions to the Society are deductible from income, gifts are deductible for gift tax purposes, and bequests or legacies are deductible for estate tax purposes.

MEMBERSHIP FEES ARE AS FOLLOWS:

ACTIVE MEMBERS	\$2.00 annually
CONTRIBUTING MEMBERS.....	\$5.00 annually
SUSTAINING MEMBERS	\$25.00
LIFE MEMBERS	\$100.00
BENEFACTORS	\$500.00
PATRONS	\$1,000.00

The Society maintains an office at the Chicago Academy of Sciences, where literature and information may be obtained and where public lectures are held.

The *Audubon Bulletin* is published quarterly and distributed to its members.



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THE AUDUBON BULLETIN



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(ORGANIZED IN 1897)
For the Protection of Wild Birds

Affiliated with
The Chicago Academy of Sciences
2001 NORTH CLARK STREET
C H I C A G O
Telephone Lincoln 0606



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Bird Painting in America

By JANET HULL ZIMMERMANN

BIRD PAINTING is one of the most difficult and exacting of arts. No other demands that the painter be a scientist as well as an artist. Only an ornithologist is capable of producing work that is structurally correct. Only a devoted student with years of observation in the field can capture in a single figure the composite of impressions that is the very essence of the bird. Add to the scientist's knowledge the artist's skill in giving his figures third-dimensional movement, in conveying the very smell and feel of the marsh, the sea, and the woods, and you have the perfect bird painter.

Bird painting in America begins with Mark Catesby, an English naturalist and traveler who came to Virginia in 1712. In his wanderings up and down the coast and off to the Bahamas he gathered the material for his life work, the *Natural History of Carolina, Florida, and the Bahamas*. The state of ornithology in his day may be appreciated from the fact that his studies of Carolina birds led him to refute the accepted theory that birds spend the winter hibernating in the mud and ooze of lake bottoms! The first of his two volumes appeared in 1731. The work was illustrated with more than 200 engravings from copper plates, etched by Catesby himself from his own paintings, and hand-tinted under his personal direction. Although his drawings were crude, lifeless, without a semblance of anatomical accuracy, they have, nevertheless considerable charm. The library of the Chicago Natural History Museum owns the books. And the interested student may find a few reproductions in black and white in the magazine *Antiques*, volume 37, page 282.

Alexander Wilson, more than 75 years later, produced his great *American Ornithology*. Wilson contributed more to the science of ornithology than he did to painting. Failing to master the art of etching which Catesby had employed, he engaged a fellow Scotsman, Alexander Lawson, to prepare the plates from his drawings. These drawings were done in pencil or in ink, sometimes only in outline. Wilson supplemented them with verbal descriptions, hanging impatiently over Lawson's shoulder as he worked. The sample proof was colored by Wilson as a model for the colorists of the other copies. Certainly to Lawson almost as much as to Wilson is due the success of the undertaking. The work stimulated others to the study of North American birdlife, and started the vogue on which Audubon rode to fame.

John James Audubon was the first to combine the gifts of both artist

and ornithologist. He had a sound training under the French master of the day, Louis David, who taught him how to breathe life into his work. His melodramatic compositions, the vivid colors of the birds, the beautiful floral backgrounds — most of them done by one of his apprentices, Joe Mason, but inspired by Audubon — all combine to make pictures that are strikingly ornamental. Nearly 100 years after his death, Audubon's work is more widely appreciated than ever before, thanks very largely, perhaps, to the Macmillan Company's beautiful *Birds of America*, published in 1937. This volume is illustrated from the original elephant folio with plates superbly executed by R. R. Donnelley's master engravers.

John Cassin, in 1853-55, published his ten-part "elephant" edition of the *Illustrations of the Birds of California, Texas, Oregon, British and Russian America*, illustrated by George W. White. This enormous work tried to cover the western species not touched on by Wilson or Audubon.

Another obscure work, long out of print, deserves to be re-issued. It is the *Illustrations of the Nests and Eggs of Birds of Ohio*, with text by Howard Jones and illustrations by Mrs. N. E. Jones. Published in three volumes at Circleville, Ohio, from 1879 to 1886, it is a collection of hand-colored lithographs which have never been excelled for accuracy and beauty in the delineation of nests.

A name equally as great as Audubon's is Louis Agassiz Fuertes. Many consider him the greatest painter of birds that ever lived. Less decorative than the older artist, he surpasses Audubon in accuracy, and in the intangible expression of the personality of birds — a skill gained by profound and extensive knowledge.

Fuertes was born in Ithaca, New York, in 1874. He graduated from Cornell University in 1897, and for the next thirty years his work was in constant demand. Practically every important bird book of the period was illustrated with his paintings. His plates for Eaton's *Birds of New York*, and Forbush's *Birds of Massachusetts* include practically every species of eastern North America. The finest things he ever did, the climax of his life's work, were the drawings made on the Chicago Daily News Abyssinian Expedition of 1926-27, under the direction of the Chicago Natural History Museum. He had often expressed a desire to get away from mere portraits of birds, such as those he did on commission, and hoped he would some day have time to make paintings that were more pictorial. In the Abyssinian pictures he attained his ideal. How far he would have gone in that direction no one can guess, for in 1927 he was killed in a grade-crossing accident.

Fuertes was a tireless worker in the field and never lost an opportunity to add to his collection of birds or sketches. The Dictionary of American Biography says that "at the time of his death he left some 3,500 beautifully prepared bird skins and over a thousand field and studio sketches of more than 400 different kinds of birds. His greatest collection, however, was the series of mental images of each bird which seemed to be indelibly impressed upon his mind with all the accuracy of a photographic plate. When examining a bird his concentration was supreme. He was oblivious to everything about him; and during these moments, apparently, details of pose and expression were so fixed in his mind that years later he could reproduce

them with pencil and brush."

One of Fuertes' young students at Cornell University, where he was lecturer in ornithology for four years, was George Miksch Sutton. Sutton was born in Nebraska 47 years ago, was educated in Texas, and took his Ph.D. at Cornell, where he has been curator of birds since 1931. He is now on leave of absence to serve his country as a Major in the Army Air Forces, engaged in research work with the Arctic Section of the Arctic, Desert and Tropic Information Center in New York City.

His first scientific explorations took him to Labrador and the Hudson's Bay country, where he found the rare nests and eggs of the blue goose and Harris's sparrow. Then he turned south — first to the southern states for ivory-bills, to the Florida Everglades, and, most recently, to Mexico, after such rare species as the tiger bittern, squirrel cuckoo, and Alta Mira oriole.

Sutton made the gorgeous illustrations for Todd's *Birds of Western Pennsylvania*, the plates for Bailey's *Birds of Florida*, and many illustrations for Roberts' *Birds of Minnesota* and Allen's *American Bird Biographies* and *Golden Plover and Other Birds*. He has also written and illustrated some charming books of his own, notably *Eskimo Year* and *Birds in the Wilderness*.

In a recent number of Popular Science Magazine he has told his own story of how he works. He says: "As far back as I can remember, I have been making pictures of birds. Wherever I have gone in my work as an ornithologist — whether to the frozen tundra of Southampton Island, or to the cloud-hung mountains of Mexico — I have taken my water-color outfit with me. I have seen alive most of the 1,200-odd species and subspecies of birds listed for the vast area lying north of the Rio Grande. Many of these I have been so fortunate as to encounter on their breeding grounds, and to sketch in pencil direct from life, or paint in water color from freshly killed specimens. The hundreds of paintings I have brought back amount by this time to a considerable reference library. These paintings are housed at the University of Michigan's Museum of Zoology at Ann Arbor."

Describing how he works, he says, "I have read a good many articles, most of them of the Sunday-supplement type, telling of bird artists who have waited half frozen for hours on some mud flat for a chance to draw a flock of brant from life, or braved a blizzard to get an authentic sketch of a snowy owl. This sort of story reads well. But I, for one, am very skeptical. I know all too well how impossible it is for me to turn out any sort of sketch, whether authentic or not, with hands that are wet and cold. In fact, I have to be pretty comfortable all over to turn out anything like good work. To be perfectly honest, I depend on a somewhat photographic memory; check drawings with actual photographs whenever possible; study and work with birds in zoological gardens whenever I can; and most of the time I find it quite impossible to make my finished drawings direct from living birds. Only occasionally am I fortunate enough to have a bird alive and in good condition at the time I need it. Life sketches, yes. Quick studies showing how a bird holds its wing or how its foot clutches a perch, yes. Some of my best direct-from-life portraits are of ducks caught in

winter at live-traps. These models I usually put into old shirt or smock sleeves so their heads will stick out, tie them in so they can't kick and squirm, talk to them and stroke them, and set to work. A good many birds, when treated thus, become quite docile."

He has received many honors as a result of his outstanding work, but the one he cherishes above all others — an honor coveted by all ornithologists — was the naming of the Sutton's Warbler, the first new bird discovered in the Eastern United States in recent times.

Francis Lee Jaques is another top-notch bird painter. Not as good an ornithologist as Sutton, he paints certain birds better than others. His ducks, herons, and upland game birds can hardly be excelled, but his small land birds and hawks are less successful. His birds have a most remarkable third-dimensional movement. They seem to be a part of the landscape. He puts them in interesting positions — at an angle overhead, going directly away from the observer or toward him, not always in profile. He excels, too, in the difficult task of grouping several birds artistically on one plate, a requirement in most modern bird books. More than any other painter since Audubon, or since Fuertes' Abyssinian work, he produces bird portraits that are beautiful in design.

Jaques for nearly twenty years was associated with the American Museum of Natural History, for which he did panoramic background paintings and murals. Among the bird books which contain his illustrations are Roberts' *Birds of Minnesota*; Robert Cushman Murphy's *Oceanic Birds of South America*; Arthur H. Howell's *Florida Bird Life*; and Bertha B. Sturgis' *Field Book of Birds of the Panama Canal Zone*.

Since 1942 he has been collaborating with his wife, Florence Page Jaques, in writing and illustrating their own delightful nature books — *Birds Across the Sky*, *Snowshoe Country*, *Canoe Country*, and *The Geese Fly High*.

Walter Alois Weber ranks among the best of the young painters of today. He was associated at one time with the Chicago Natural History Museum, accompanying the Crane Pacific Expedition in 1929. The Museum has the originals of the beautiful pictures made at that time. More recently he was with the National Park Service. He is now free-lancing and makes his home in Virginia near Washington, D.C. Much of his work is with the National Geographic Society. In the spring of 1943 he accompanied the Society's fifth expedition to southern Mexico. His delightful account of his experiences on that expedition, and his paintings of the tropical birds studied appear in the February, 1945, issue of *National Geographic Magazine*. In 1944 he designed the beautiful migratory bird hunting stamp of three white-fronted geese.

Roger Tory Peterson is best known to most of us as the author and illustrator of our inseparable companion, the *Field Guide to the Birds*. He is Director of Education of the National Association of Audubon Societies, and is well known to all readers of the Audubon Magazine as the painter of its covers. In addition to painting, he writes the Audubon leaflets which are distributed to thousands of children every year, and as contributing editor of the magazine he interprets the results of research

and new trends in natural science. Readers of *Life Magazine* have seen many of his paintings done on assignment by *Life* for their spring and autumn bird feature stories. Since the war he has been with the Army Engineers in the camouflage division.

Edwin Way Teale gives an entertaining account of Peterson's career in the November-December, 1942, *Audubon Magazine*. He was born in Jamestown, N. Y., in 1908, where he soon became the enfant terrible of the town. He claims to have been spanked oftener in sixth grade than any other boy in the history of his school. In the second half of the seventh grade a sudden change came over him. His science teacher organized a Junior Audubon Club and obtained the leaflets which turned his attention to nature. From his first Audubon leaflet he tried to draw. He used to pull a little express wagon down to the public library and haul home the two big volumes of the *Birds of New York* to study the illustrations by Fuertes. Throughout high school he took all the art courses available, and earned spending money painting designs on cabinets in one of the city's furniture factories. In this way he earned enough to attend the A.O.U. convention in New York City in 1925. There he met the great Fuertes himself. Generous as always with ambitious youngsters, Fuertes gave the boy one of his brushes and offered to make suggestions if he would send him some of his sketches.

In 1927 Peterson began his art career in earnest, attending classes at the Art Students League in New York, and earning expenses in the afternoon by painting little Chinamen on lacquered cabinets in a down-town furniture shop. Week-ends he roamed the fields and woods chasing birds. For three years he taught art and science at the Rivers School at Brookline, Mass., and labored evenings over his Field Guide. The year it was published, in 1934, he joined the staff of the Audubon Society, where he has been ever since. His book this year won the American Ornithologists' Union's Brewster Medal, awarded each year for the most important book on North or South American birds.

Peter Markham Scott is the best known of the young English painters. He is the son of Robert Falcon Scott, who lost his life in the Antarctic. Before the war, young Scott — he is now only 35 years old — lived in an old lighthouse on The Wash, a tidal marsh on the North Sea coast of England. His lighthouse is a regular stopping place for migratory birds, and in addition to these migrants he made pets of some 400 wild geese. They even bred on his land, and became so tame that the females permitted him to feed them on the nest. With the out-break of the war he crated up his tame birds, sent them to the estates of his friends, and joined the British Navy.

As a student at Trinity College, Cambridge, he spent his vacations duck hunting and sailing along the English coasts, and he has roamed over a considerable part of the world, from Hudson Bay to the Caspian Sea, in search of the nesting sites of rare geese and ducks. He turned out an average of one painting a week. His annual shows at Ackermann's gallery in London were usually sell-outs, some of his paintings going for as much as \$1,400. His mother, the sculptress Lady Kennett, from whom he ap-

parently inherits his talent, calls him "preposterously prosperous."

Young Scott not only paints birds, but writes about them beautifully. His two books *Wild Chorus* and *Morning Flight* should be in every collection of bird books. At the time the war interrupted, he was working on an ambitious monograph on *The Wild Geese of the World*. It is to be hoped that he will soon be able to resume this important study.

Returning to the United States, there are a number of older men who are still doing significant work. Allan Brooks, the Canadian painter, was considered by many people the logical successor to Fuertes. Brooks finished the plates in Forbush's *Birds of Massachusetts and Other New England States*, which Fuertes had started, and during the next several years he was given many of the commissions that would probably have gone to Fuertes had he lived. Many of his paintings appear in Roberts' *Birds of Minnesota*, and with Roger Tory Peterson he illustrated May's *Hawks of North America*. He lives at Okanagan Landing, British Columbia.

Bruce Horsfall, now in his 70's, had a good background as an artist, having studied at the Cincinnati Art Academy, and in Munich and Paris. Some of the backgrounds for habitat groups in the American Museum of Natural History are his, and he has done similar work for Yale's Peabody Museum, and bird murals for the Administration Building of the New York Zoological Park, and the United States National Museum. He is now an artist with the American Nature Association in Washington. He is a better painter than he is ornithologist. He has admitted that although he has painted every North American warbler many times, he still can't tell one from the other in the field.

Frank W. Benson is a gallery painter, and one of the country's best known etchers, who often chooses ducks and geese as his subjects. He is a Bostonian, educated at the Boston Museum of Fine Arts, where he has been an instructor in drawing and painting since 1889. His work is represented in most of the leading art museums throughout the country. In 1941 he exhibited 68 of his drypoint etchings of ducks and geese — a retrospective show of work done since 1913. The etchings were reviewed enthusiastically by the art critics, but the more critical ornithologists find fault with the length of wings and various other structural details.

The most publicized of the older men who work in the tradition of Audubon is Rex Brasher (pronounced *bray-sheer*, according to Who's Who). His life work, the labor of nearly 50 years, is assembled in a 12-volume set of plates which sell for \$2,500. The story of these paintings is a saga of perseverance in the face of disappointment and frustration, of refusal to compromise, refusal to lose sight of the stars by which he had set his course. And in the end ornithologists point to his many anatomical inaccuracies and say it may be good art, and artists say it is good ornithology, and only rich sportsmen who are interested in neither art nor ornithology can afford to buy his books!

He was born in 1869 in Brooklyn, the son of a Wall Street broker whose hobby was ornithology and taxidermy. The father assembled one of the finest collections of mounted birds of his time and left it to Yale University. The collection was destroyed by fire before the boy had an

opportunity to study it. When Rex was ten years old his father died, leaving the family penniless, and the child immediately left school and went to work. When he was 15 he learned copper engraving at Tiffany's, and soon afterward tried photo-engraving for newspapers. He began to write nature articles for the New York papers, illustrating them with sketches of birds he saw on his week-end rambles. He completed his first bird painting, a brown thrasher, when he was 20. It was then that he formed the modest ambition to paint *all* the birds of America.

In the next 15 years he wandered all over the continent, sketching birds wherever he went, and working just enough to keep himself alive. He spent three years in the Gloucester fishing fleet, drawing sea birds in his spare time. He labored in the western wheat fields, and in road gangs. In New York he worked as a race-track bookmaker for ten dollars an afternoon, and there he had his first stroke of luck. He made a bet of his own on a long shot and won \$2,000. That money permitted him to devote all his time for the next two years on birds. By 1900 he had finished almost 500 paintings. Then a book was published with the pictures of Fuertes. Brasher says, "I took a long, sober look at my own pictures, and the whole lot of them went into the furnace."

He started over again and labored another five years. But in 1905 he discovered a new technique of rendering the color of feathers, and again he started the fire with his paintings. A third time he was satisfied. By this time he was living in his present home, a farmhouse near Kent, Connecticut. He labored 15 hours a day, and by 1928 had completed his work — 874 paintings showing in detail 1,201 species and subspecies, and incidentally, as backgrounds, all the American trees. Audubon and Fuertes made only half as many paintings, but Brasher hastens to explain that he was helped by the work of his predecessors, and moreover he had the use of the American Museum of Natural History's collection of 100,000 skins.

Now came the problem of publishing this stupendous work. When the publishers discovered that it would cost \$500,000 to reproduce the paintings they understandably lost interest. Brasher determined to become his own publisher. He had the pictures reproduced in black and white, and then with a staff of artists to paint in the backgrounds, he hand-colored every print himself. In three and one-half years he worked on 85,000 prints, finally producing 100 sets of 12 volumes.

Still his troubles weren't over. He offered the original paintings to the State of Connecticut with the provision that they build a suitable museum to house them. For several years they remained stored away while nothing was done about the museum. Finally his friends persuaded him that he had made a mistake in giving them away. They urged him to take them back, and later offer them for sale. It was smart psychology and it worked. In June, 1941, the State Legislature passed an appropriation of \$74,290 to purchase a collection that had been in their hands for seven years as an unappreciated gift! Presumably they will build the museum in Kent Falls State Park after the war.

Three Chicago artists should be known to Illinois bird lovers. Karl Plath, curator of birds at the Brookfield Zoo, was born in Chicago and

educated at Art Institute. His interest in bird painting dates from his tenth year when he amused himself during a convalescence from an appendix operation by coloring the illustrations in Woods' *Natural History*. Later he went to Warsaw, Indiana, for a visit, where he struck up a friendship with the sexton of a cemetery who introduced him to the riches of bird-hunting in a grave-yard. On sketching trips to Florida and Jamaica he became interested in painting tropical birds, in which he has specialized. The Chicago Natural History Museum exhibited his painting of a spix macaw at its exhibit of "Ornithological Illustration from 1555 to the Present," held from April 26 to June 4 of this year to commemorate the 160th anniversary of Audubon's birth.

Earl G. Wright, now director of the Neville Public Museum at Green Bay, Wisconsin, for about 15 years was associated with the Chicago Academy of Sciences. A number of his charming water colors are exhibited on the third floor of the Academy building. A little book called *Homing with the Birds*, now out of print, was written by Alfred M. Bailey and illustrated with Mr. Wright's paintings. He is still painting in whatever spare time he can find, and he is teaching night classes in sculpture at Green Bay.

William J. Beecher, former temporary assistant in the Department of Zoology, Chicago Natural History Museum, is a soldier who found time to study natural history in the midst of war. Although 10 out of 30 months in the Solomon Islands were spent in combat areas, Corporal Beecher managed to accumulate several hundred specimens of birds, mammals, and reptiles, most of which are new to the Museum collections. Shortly after the Munda airstrip was secured, he began painting the common animals and plants of the Solomons, especially the birds, since no popular literature for their identification existed. He painted some sixty species in twenty-four weeks during spare time amounting to about a day a week. The plates represent the first extensive attempt to paint the natural history of the Solomons and interpret it popularly.



To an Oriole

*How falls it, oriole, thou hast come to fly
In tropic splendor through our northern sky?*

*At some glad moment was it Nature's choice
To dower a scrap of sunset with a voice?*

*Or did some orange tulip, flaked with black,
In some forgotten garden, ages back,*

*Yearning toward heaven until its wish was heard,
Desire unspeakably to be a bird?*

—EDGAR FAWCETT

A Week in the Great Smokies

By DR. ALFRED LEWY

THROUGH THE COURTESY of Mr. Victor Cahalane, Chief Biologist, National Park Service, Department of the Interior, and the kind and cooperative help of Mr. Arthur Stupka, the Park Naturalist, I was enabled to get somewhat acquainted with the bird population of the Great Smoky Mountains National Park during the first week of May, 1945. There was considerable precipitation nearly every day, which at the higher mountain levels meant snow and fog, so that the bird list of that area is very scant. Not once did I see the Carolina junco, which should be common at the higher levels, and the snow and mud made a trip to the breeding grounds of the duck hawk rather precarious going, and it was not undertaken.



COURTESY OF NATIONAL PARK SERVICE

Motorists in Great Smoky Mountains National Park usually pause at Newfound Gap (elevation 5,045 feet) to enjoy the fine view.

But the "bad" weather had its compensations. On May 4, with cold rain and fog off and on all day, we went over Newfound Gap to Oconoluftee Ranger Station, where Mr. Stupka was arranging a museum exhibit. As we approached the frost line at about 3600 feet elevation the fog lifted and we were treated to a most magnificent panorama. Below, spread over miles of beautiful mountainside, were the myriad shades of green that springtime brings to the abundant flora of this region, splashed with large areas of mountain laurel in full bloom, with occasional magnolias and other flowering trees; above the frost line, clearly demarcated across the broad sweep of the landscape, the darker green hemlocks, etched in filagreed

silver with snow sprinkled on their branches, like a ghostly fairyland, extended as far as the eye could reach and over five thousand feet high. It was a breath-taking spectacle, and a thrill like my first sight of Grand Canyon.

The next evening I witnessed another gigantic Christmas card — Mount LeConte, over 6500 feet, in the setting sun with its whole top of hemlock and spruce in frosted detail. Through the binoculars it was a glorious sight.

In the mornings I would be awakened by a grand wood thrush chorus in the wooded hill just behind my hotel window. So many birds joined that there were no pauses between the phrases; they overlapped into a continuous, beautiful harmony. This bird was very common and approachable. In a tourist camp next door, along a rushing stream in a little group of pines, area about 100 by 50 feet, a sycamore warbler worked and sang continuously at whatever time of day I was there. I was able to observe him every day and make sure that the white supraorbital line was white throughout. There were sycamores along the stream, but he confined himself to the pines and seemed to be feeding out of last year's cones and along the smaller branches. I saw no female and found no nest. I recognized this same song again at Asheville, and this bird also remained in the pines.

Both bronzed and purple grackles have been reported in the park. None of those I studied had the unquestionable bronze sheen of the Chicago grackles, but to me, observed in various conditions of light and shadow, looked blue-purple on the body. Even those I took to be females had the bluish-purple cast.

Of the various flycatchers on my list the Acadian did not appear as greenish as the one of our region, but more on the order of our alder. The note was the *swee-zuk* that we associate with the Acadian. No hawks were seen by me within the confines of the park; the turkey vulture was on several occasions.

Although the park is full of rushing mountain streams there is little standing water and shore birds are scarce. A visit to Cade's Cove, a flat cultivated valley containing a tiny bit of buttonbush marsh, added to our list red-winged blackbirds, meadowlarks singing the song of the eastern species, and bob-whites. On the return trip over mountain roads I saw my only ruffed grouse. The wild turkey we missed probably by not getting to their grounds early enough.

A visit to Wear's Cove on the north border of the park was more productive. There along a little grassy slough we saw the solitary sandpiper, Wilson's snipe, and six semipalmated sandpipers, the latter not seen in the park by Mr. Stupka in ten years. While studying these with my binoculars I was affectionately surrounded by a small flock of pigs that studied me with their snouts.

Mr. Stupka's keen musical hearing and retentive memory revealed to us many birds we would not otherwise have discovered. One afternoon, near his residence, at an elevation of about 1400 feet, he heard the call of

the red crossbill. Three years ago he had reported to the *Auk* the finding of this bird feeding young in this same locality, the first record of their nesting south of Pennsylvania. We found the brick-colored male, the greenish female and two streaked young. One of the young that lent himself to careful observation showed no crossing of the mandibles, which was easily observable in the adults through our binoculars.

Among the several bird songs to which I was introduced for the first time *three, three, three* of the Kentucky warbler and the *chip periweo* of the white-eyed vireo are most easily recalled. The vireo had some variations: *chip hurray tuk tuk chip*, sometimes using a trill instead of the introductory *chip*. The Carolina chickadee could be distinguished from our black-cap, both by the more rapid repetition of the *dee, dee, dee* phrase and



COURTESY OF NATIONAL PARK SERVICE

Mt. LeConte from the Newfound Gap Highway

by the introduction of a grace note before each of the two principal notes of the mating whistle, making it really a four note call. (The plumbeous chickadee, heard in Oklahoma, a subspecies of the Carolina, also had two similar grace notes in the mating call.) The vinaceous cinnamon wash on the flanks could not be seen. Dr. C. W. G. Eifrig believes the Carolina chickadee ranges as far north as Springfield, Ill. The above observation may help in field identification.

One night after dark Mr. Stupka took me up to Newfound Gap to hear what he believed to be the call or song of the saw-whet owl, a distant whistle repeated eight or ten times in the same pitch at regular intervals. The owl had never been positively seen. Mr. Leo K. Couch, of the Fish and Wildlife Service, for whom I tried to imitate the call, says it was the saw-whet.

At the Oconoluftee Ranger Station there were two phoebe nests containing well-feathered young. Although I watched quite a while there was no feeding of the young, nor did they show any restlessness. The old birds were around and catching insects. Perhaps they were afraid of me. There were also three robins' nests here, but only the males were seen carrying nesting material. No females were seen, but a few days later there was an egg in one of the nests.

The birds in the following list were all field identifications and subspecies are credited to the presumable local type:

Turkey vulture, *Cathartes aura septentrionalis*.
Ruffed grouse, *Bonasa umbellus monticola*.
Bob-white, *Colinus virginianus virginianus* (?)
Killdeer, *Oxyechus vociferus vociferus*.
Wilson's snipe, *Capella delicata*.
Solitary sandpiper, *Tringa solitaria solitaria*.
Semipalmated sandpiper, *Ereunetes pusillus*.
Chimney swift, *Chaetura pelagica*.
Mourning dove, *Zenaidura macroura carolinensis*.
Saw-whet owl, *Cryptoglaux acadica acadica* (heard).
Ruby-throated hummingbird, *Archilochus colubris*.
Flicker, *Colaptes auratus* (?).
Northern (?) pileated woodpecker, *Ceophloeus pileatus abieticola*.
Downy woodpecker, *Dryobates pubescens medianus*.
Phoebe, *Sayornis phoebe*.
Acadian flycatcher, *Empidonax virescens*.
Least flycatcher, *Empidonax minimus*.
Olive-sided flycatcher, *Nuttallornis mesoleucus*.
Tree swallow, *Iridoprocne bicolor*.
Rough-winged swallow, *Stelgidopteryx ruficollis serripennis*.
Purple martin, *Progne subis subis*.
Blue jay, *Cyanocitta cristata cristata*.
Crow, *Corvus brachyrhynchoa brachyrhynchoa*.
Carolina chickadee, *Penthestes carolinensis carolinensis*.
Tufted titmouse, *Baeolophus bicolor*.
Bewick's wren, *Thryomanes bewicki bewicki*.
Carolina wren, *Thryothorus ludovicianus ludovicianus*.
Mockingbird, *Mimus polyglottos polyglottos*.
Catbird, *Dumetella carolinensis*.
Brown thrasher, *Toxostoma rufum*.
Robin, *Turdus migratorius migratorius*.
Wood thrush, *Hylocichla mustelina*.
Bluebird, *Sialia sialis sialis*.
Cedar waxwing, *Bombycilla cedrorum*.
White-eyed vireo, *Vireo griseus griseus*.
Yellow-throated vireo, *Vireo flavifrons*.
Red-eyed vireo, *Vireo olivaceus*.
Black and white warbler, *Mniotilta varia*.
Worm-eating warbler, *Helmitheros vermivorus* (heard).

Golden-winged warbler, *Vermivora chrysoptera*.
Yellow warbler, *Dendroica aestiva aestiva*.
Myrtle warbler, *Dendroica coronata*.
Black-throated green warbler, *Dendroica virens virens*.
Chestnut-sided warbler, *Dendroica pensylvanica*.
Oven-bird, *Seiurus aurocapillus*.
Sycamore warbler, *Dendroica dominica albilora*.
Louisiana water thrush, *Seiurus motacilla*.
Kentucky warbler, *Oporornis formosus*.
Yellow-breasted chat, *Icteria virens virens*.
Canada warbler, *Wilsonia canadensis*.
Redstart, *Setophaga ruticilla*.
Eastern meadowlark, *Sturnella magna magna*.
Red-winged blackbird, *Agelaius phoeniceus phoeniceus*.
Orchard oriole, *Icterus spurius*.
Purple grackle, *Quiscalus quiscula*.
Scarlet tanager, *Piranga erythromelas*.
Cardinal, *Richmondia cardinalis cardinalis*.
Rose-breasted grosbeak, *Hedymeles ludovicianus*.
Indigo bunting, *Passerina cyanea*.
Pine siskin, *Spinus pinus pinus*.
Goldfinch, *Spinus tristis tristis*.
Red crossbill, *Loxia curvirostra*.
Towhee, *Pipilo erythrophthalmus erythrophthalmus*.
Chipping sparrow, *Spizella passerina passerina*.
Field sparrow, *Spizella pusilla pusilla*.
White-crowned sparrow, *Zonotrichia leucophrys leucophrys* (said by Mr.
Stupka to be very rare in the park).
White-throated sparrow, *Zonotrichia albicollis*.
Song sparrow, *Melospiza melodia melodia*.



Bird Walks in Lincoln Park, Season 1945

By DORIS A. PLAPP

THE BIRD WALKS were again conducted following the very fine motion picture programs provided for young folks by the Chicago Academy of Sciences on Saturday mornings. Many people started out from in front of the Natural History Museum; the persistent bird students disbanded some two hours later. While the trips at this time of day have afforded good bird observations, it seems to be the opinion of the majority that 7:30 a.m. would be a better hour. Accordingly, next year we shall probably have our alarm clocks going off on Saturday mornings as well as Mondays thru Fridays.

The high spot of our first walk was a ruddy duck on the north pond. Altho some of us have studied birds for many years in Lincoln park, we have never before seen a ruddy duck in park surroundings. The following

week, four species of woodpeckers presented themselves for observation and comparison. Another walk gave us the olive-sided flycatcher in addition to more usual birds. Again, we were inspired by the common terns, a flock of them, diving for small fish in the south lagoon. The beautiful expanse of grass east of the north pond gave us goldfinches, indigo bunnings, and bluebirds at the same time. The park also furnished a good study of flycatchers. The early morning warbler trip started out in pouring rain which discouraged some of our bird watchers; however, the few who came will long remember the multitudes of birds on all sides, and the swallows that all but flew at us. In about three hours time we had identified fifty species, but we realized that more time would have lengthened the list considerably and that many birds seen had escaped identification due to poor visibility and dense foliage.

As might be expected, some birds were conspicuous by their absence on Saturday mornings. We saw no loons, scarlet tanagers, or vireos, and not too many warblers. But these omissions only make us look forward to the series of bird walks in 1946.



Chatham Marsh

*Upon the marsh the quiet dusk is laid.
 The aster-bordered wood now guards the sleep
 Of yellow lotus over leaves of jade,
 While owls come forth their twilight trysts to keep.
 The little clouds of pectorals now rise,
 Now settle near and sing in minor key.
 In bold cacophony a heron cries
 To complement the vesper melody.
 Dear as all lovely things that we have known
 Are these close by and level with our sight.
 Afar the sunset's afterglow is thrown
 Where the full moon comes to rule the night.
 The heart leaps out to those far reaches, rife
 With mysteries around the ends of life.*

—CORA MCELROY



Coming Lectures

A SERIES OF LECTURES to be given during the fall months of this year and the early part of 1946 is being arranged by the lecture committee of this Society. Definite dates are not yet available for all of the speakers, but they will appear in the following order during the series.

The series will be opened in October by Earl G. Wright, Director of Neville Public Museum in Green Bay, Wis., a former member of the staff of the Chicago Academy of Sciences, and for several years a member of our Board of Directors.

November will bring to us one new to our platform, Edward M. Brigham, Jr., Director of Kingman Memorial Museum in Battle Creek, Mich.

In January, 1946, we shall again welcome Wesley F. Kubichek, who is in charge of the Section of Visual Information, Fish and Wildlife Service, Department of the Interior.

Dr. Miles D. Pirnie, Director of W. K. Kellogg Bird Sanctuary, Michigan State College, will appear in February.

Our long-time friend, Dr. Alfred M. Bailey, Director of the Colorado Museum of Natural History, will again be with us in March; and the speaker for a final lecture in April will be announced later.

Detailed notices of these various events will be sent to our members as has been the custom, and you and your friends will be welcomed at the Chicago Academy of Sciences, 2001 North Clark Street, where all lectures will be given.

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A Word from Overseas

A LETTER HAS BEEN RECEIVED from Pfc. Alfred H. Reuss, of Blue Island, whose bird-banding reports from the Palos region have been missed since his induction into the armed service. Following are some extracts which will be interesting to his friends here.

Hello folks:

"Eining, Germany, July 31, 1945.

. . . . I am way over here in Germany at present, but even so far away the bold letters "Illinois Audubon Society" sure look good. I may be home in October to attend at least one of the fall meetings *if* we don't ship CBI direct. We are at present at Seekirchen See at Henndorf, Austria, about 15 miles from Salzburg. You will see it on the maps of Austria. I am a truck driver, 2½ ton, for our Battalion Supply, and travel about quite a bit. Some trips are 500 to 1,000 miles, and we are on the road for a week getting supplies. I have seen almost all of the big towns and cities, and they certainly are in bad shape. I have taken pictures, but film is very scarce.

Well, for the birds: I have seen quite a few in England, France, Germany and Austria. However I still haven't been successful in obtaining a book with their right names, but have my own. When we were in Alsace I saw several storks; they were just coming back there when we left on a wild goose chase after the Heinies. Barn swallows, skylarks, chimney swifts, seem to be the most abundant birds in the territories where we have been; chickadees are also common most everywhere. There are a lot of lakes all over in Germany and Austria, but I have seen only three or four ducks, no sandpipers or water birds, and very few hawks or owls. I have seen more birds in England than any other place.

Let's hear from some of you. It really would be swell. Well, it is almost dark and time to crawl into the pup tent. We are living in pup tents for a week, but will be back to Henndorf next Sunday. There we have cots.

As ever,

ALFRED H. REUSS."

His address is "Pfc. Alfred H. Reuss, 36957043, H. & S. Co., 260th Engr. C. B. N., A.P.O. 403, c/o Postmaster, New York, N. Y." We are sure he would welcome a word from any of his friends among the ornithologists and bird banders.



White-throated Sparrows

SOME OF THE BIRDS that visit or pass over the farm each fall on their migration are rather spectacular and always catch the eye of the outdoor fan. Others, like the white-throated sparrow, come down from the north so quietly and are so inconspicuous during the time they are on the farm that they go almost unnoticed.

We have been watching the white-throats recently. This species is one of our favorite migrants because of its neat dress and delightful song. The sweet, plaintive cadence of this trim sparrow is one of the most pleasing bird songs associated with spring.

Only a few birds migrate against a color background such as the white-throat has during October, when the countryside is drenched with autumn colors. Most of our summer residents are in such a hurry to migrate south that they leave before the foliage has taken on the vivid tints that come to the oaks, hard maples, and other trees during the month of October.

The other day we watched some of the white-throated sparrows searching for food. They were on the ground rustling the dry fallen leaves. This is a typical background for the bird because it is in no hurry to move southward. As a result it visits the farm when the sumac is a blaze of purple and scarlet, and the trees are losing their foliage.

While we were watching some of the birds, we couldn't help listing some of the pastel tints that serve to highlight such a bird as the white-throat. There still are rich clusters of dark purple asters in the fields where the sparrows pick up weed seeds. The white and blue asters still are blossoming. Yellow is provided by growths of Jerusalem artichokes. In the woods the autumn colors range from deep russet browns to the bright orange of the hard maples.

This bird doesn't fly so very far south each winter, but it does make quite a flight northward to nest. It likes the coniferous forests of Canada, east from Mackenzie. The bird also breeds in the northern United States. In the winter it may be found anywhere from Ohio south to Florida and northeastern Mexico.

Altho we always get a thrill in seeing these birds on their autumn migration, you must see and hear them in the comparative silence of the northern woods to appreciate the position they have in the outdoors. Last summer, when we were above the St. Lawrence river, in the hushed spruce forests, we could listen to the clear whistled song of this sparrow. Often they sang to us as we fished a salmon river.—"*Day by Day on the Farm*", *Chicago Daily Tribune*.

What is the ILLINOIS AUDUBON SOCIETY?



It is a corporation organized in 1897, not for profit, under the laws of the State of Illinois, for the study and protection of wild birdlife.

It aims to encourage the study of our native wild birds, to increase the appreciation of their aesthetic and economic values, and to work for their safety through education.

All lovers of birds are welcomed to its membership upon signing an application and paying membership dues. All dues and bequests other than those paid annually are held in an Endowment Fund, only the income from which is used for current needs, and there are no paid officers.

Under a ruling of the Commissioner of Internal Revenue contributions to the Society are deductible from income, gifts are deductible for gift tax purposes, and bequests or legacies are deductible for estate tax purposes.

MEMBERSHIP FEES ARE AS FOLLOWS:

ACTIVE MEMBERS	\$2.00 annually
CONTRIBUTING MEMBERS.....	\$5.00 annually
SUSTAINING MEMBERS	\$25.00
LIFE MEMBERS	\$100.00
BENEFACTORS	\$500.00
PATRONS	\$1,000.00

The Society maintains an office at the Chicago Academy of Sciences, where literature and information may be obtained and where public lectures are held.

The *Audubon Bulletin* is published quarterly and distributed to its members.



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2001 NORTH CLARK STREET
CHICAGO, ILLINOIS

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THE AUDUBON BULLETIN



THE
ILLINOIS AUDUBON SOCIETY
(ORGANIZED IN 1897)

For the Protection of Wild Birds

Affiliated with

The Chicago Academy of Sciences

2001 NORTH CLARK STREET

CHICAGO

Telephone Lincoln 0606

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Martin Houses

By R. E. MEANY

IN 1941 I became interested in purple martins, purchased a standard commercial house with 24 rooms, and hopefully erected it on a 20-foot pole on the rear of my lot. The location was about 50 feet from our house and fairly open except for a small elm tree perhaps 25 feet from the bird house. Although there is no open water in the vicinity, which is considered quite an advantage in attracting martins, yet there are several colonies in a half-dozen large houses on the grounds of Ridge Country Club, a mile to the west, and of course there are many individual colonies of these birds scattered throughout Beverly Hills.

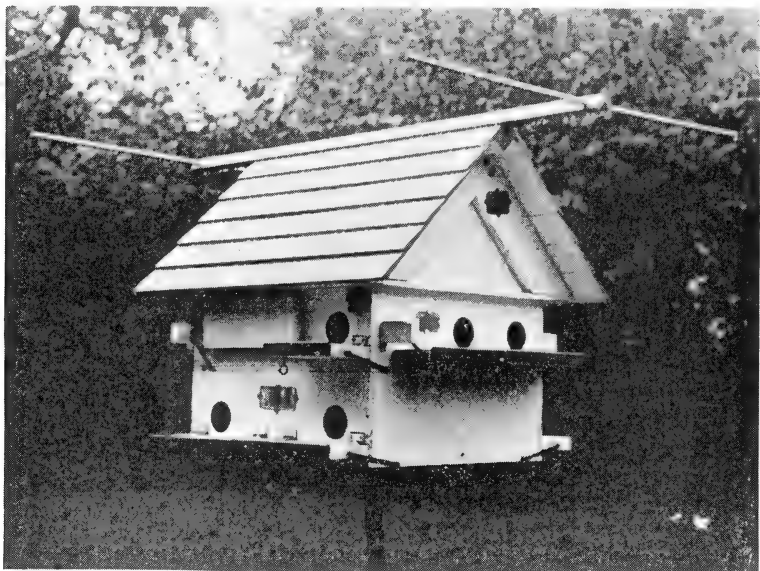
Knowing that there were plenty of martins in the vicinity, I felt that all I had to do was put up the house and wait for the birds to come. And it was quite a long wait. For three years I put up that martin house each spring, and although I got a few nibbles, I failed to land a single martin



during that time. Most of the difficulty was due to the English sparrows who drove off any martins coming down to have a look.

After three years with no results, I decided to build a martin house from which English sparrows could be excluded. If these undesirable pests could be prevented from nesting, the martins would have a chance to get started, and, once started, they could hold their own with the sparrows.

My first effort was an eight room house with the bottom dump feature, as illustrated in the accompanying photograph. The bottom of each compartment is hinged so that by means of a long pole with a hook at the end any compartment may be emptied of its contents quite easily from the ground. The bottom may then be pushed back into place, where it is held by a cupboard catch. After its nest has been dumped out on the ground a time or two, even a sparrow, persistent as he is, seems to get the idea that he is not wanted around that particular house. Dumping of sparrow nests should not be done except when the martins are not around. This house follows the standard dimensions, the rooms being 6x6x6 inches, center open and connected to an attic which has screened openings for ventilation. Although the construction is sturdy, the weight is only 30 pounds, which is an advantage in handling.



Even before finishing the first house, an idea for a second house came to mind: using individual hinged ledges in front of each hole. This idea of closing up the entrances to each hole as desired has been used successfully by Mr. Louis Lutherman, of Blue Island, for several years. Whereas Mr. Lutherman makes use of a special lock to hold the ledge up or down, the house built by the writer, illustrated in the second photograph, uses a phosphor bronze spring which holds the ledge up or down, depending on which way you push it. Closing up the hole or opening it is accomplished by means of a long pole with a hook on the end of it, and is so simple that a child can operate it. House No. 2 is built along the same lines as No. 1 but has two stories, and the bottom story has larger rooms, about 7x7x9 inches.

I put up my two martin houses early this year—March 15—as we were having warm weather and it looked like an early spring. However, the weather reversed itself and spring came late, quite late. Some colonies arrived in Beverly Hills 30 days or more later than usual, and others didn't arrive at all. Due to the unusually late spring there were considerably fewer martins in our vicinity than normal.

By May 15 I had no martins—not even a nibble. A friend who had landed a colony in the neighborhood a few years before, advised that I tack up a few small mirrors on my houses alongside some of the holes. This had worked for him after he had waited four years for martins. So down came the houses and, with mirrors added, also a couple of pieces of copper, up they went for another try.

The last week of May, along came a fine pair of crested flycatchers that immediately took to martin house No. 2. They seemed to enjoy hopping from one perch to the other, making a continuous noise with their *wheep*. The mirrors really intrigued them, and they frequently sat looking at their own image for three or four minutes at a time. At other times they would fight viciously with the image in the mirror, and always turn away in apparent disgust. The crested flycatcher is a handsome fellow, magnificent flyer, always on the move, and afraid of no other bird his size. They chased the sparrows and starlings from the neighborhood, and for a while I thought I had an ally. If I could not get martins perhaps I had better settle for crested flycatchers, so I thought.

Then about June 1 I saw martins flirting with house No. 2, and saw them promptly driven away by the aggressive flycatchers. That settled it. By this time they had started to build in one of the compartments, so I closed this up from below, which puzzled them greatly. They immediately started another nest in the next hole, and after two days effort found that closed up. That, together with a little shooing, frightened them off for good.

Then the martins came back and were with us all summer—not many, hardly a colony, but still martins. They, too, liked the mirrors and would stand gazing at their own image for minutes at a time. One of the martins had a habit of pecking at the mirror every time she came in for a landing, a sort of friendly greeting. Next year, of course, I'll probably have both houses full; perhaps I'll have to build another for the overflow.

Which style would I build? Well, I really haven't had enough experience to make a decision. However, I will say that when I cleaned out the nests this fall the bottom dump house was very much easier to clean. Except for that I believe No. 2 is better, but I should like to reserve judgment until I have tried them for another year.

10331 S. Leavitt St., Chicago.



IF I WERE to name the three most precious resources of life, I should say books, friends, and nature; and the greatest of these, at least the most constant and always at hand, is nature.—*John Burroughs*.

Purple Martins in Blue Island

By KARL E. BARTEL

THE PURPLE MARTIN population of Blue Island in 1945 got by, as one would say, by the skin of its teeth; the fact is that the increase was but one pair.

This year 17 martin "fans" had more pairs of birds nesting than last year, 11 lost nesting pairs from last year, and two who had no birds nesting last year had some this year. I believe the increase could have been larger, but due to the war effort the normal interest was lacking.

1945 is the tenth consecutive year that I have conducted this purple martin survey in Blue Island. The following comparison covering that period shows the gradual increase in population:

Year	Total pairs	Locations	Year	Total pairs	Locations
1936	193	29	1942	305	40
1937	151	28	1943	287	36
1938	212	29	1944	330	35
1939	252	31	1945	331	36
1940	266	35			
1941	292	38	TOTAL	2,619	337

The fluctuation in the number of nesting pairs at the various locations is of interest and is shown in this list of those who have erected martin houses:

	1943	1944	1945		1943	1944	1945
Mr. Fritsche	4	3	4	Mr. Max May...	19	21	23
Mr. Sonnenschein	20	18	20	Mr. Geo. Krizik..	2	2	0
Mr. Phiffer	2	6	2	Mr. J. Pahlke....	2	3	2
Mr. Collver	12	11	9	Mr. G. Groskopf.	2	6	8
Mr. J. Jebens ...	16	12	18	Mr. E. Borchardt	0	6	2
Mr. Burmeister .	7	7	8	Mr. O. Sauerbier.	0	3	10
Mr. J. Sitarz ...	3	4	6	Mr. E. Kistner..	4	10	14
Mr. Bill Jebens..	30	29	25	Mr. Huffman ...	1	0	0
Mr. O. Bueter ..	7	6	3	Mr. Mueller	14	22	24
Mr. Wm. Schmidt	3	3	3	Mr. Berger	15	19	7
Mr. Fleicher	15	9	11	Mrs. G. Roll.....	0	0	1
Mrs. Meehan ...	16	16	16	Mrs. Meyer	4	8	6
Mr. Jeben	16	15	16	Mr. Fredette ...	3	3	3
Mr. F. Gerdes ..	3	2	1	Mr. Luthermann.	9	11	17
Mr. E. Morrone .	2	4	4	Mr. Holstiens ...	3	12	6
Mr. Uerhke	2	2	2	Mr. E. Wittie...	5	6	6
Mr. Al. Jebens ..	14	13	9	Mr. Wittie (Gar.)	0	6	8
Mr. Al. Habenicht	6	0	2	Dr. Vloedman ...	3	0	0
Mr. R. A. Fisher	5	7	10	Mr. F. Grebner..	2	13	13
Mr. M. Kenny ...	12	12	12				

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NATURE when left to herself is harmonious; man makes discords, or harmony of another order.—*John Burroughs.*

Did You Know?

By T. E. MUSSELMAN, Sc. D.

I AM GIVING YOU a dozen trite statements dealing with curious bird experiences which have come to my attention in the last several years. Some of them doubtless will create questions, but after all in every case two or three persons can verify the irregular or peculiar statements. Did you know:

1. That a tiny brown creeper, while gleaning its meal of insect eggs from the tree bark, occasionally disturbs tiny moths and has been known to follow them into the air, "hawking them" with great skill.

2. That in the Northland, the first full complement of bluebird eggs contains four, five or six eggs (not three) and the second complement has three, four or five eggs (not six).

3. That numerous writers tell of the breaking of brittle nesting sticks from trees by chimney swifts, but has anyone recorded whether these sticks are carried to the chimney in the bill or by the feet, nor have they explained how the bird applies her glutinous saliva to the tiny sticks.

4. That bluebirds have full complements of eggs by the first week in April and about every four or five years a late freeze kills thousands of eggs. That after two weeks a different female takes over the nest box and builds a scanty grass nest above, through which the original complement may often be seen, and the new eggs occasionally rest on the rounded sides of the eggs below.

5. That in Iowa an interested woman scientist had built a wooden tower or chimney with a circular exterior stairway leading to peep holes to aid her in studying the life activities of the swifts that nested within.

6. That a prothonotary warbler is probably the most erratic of all birds in the selection of its nest sites. At a public dance pavilion north of the Florence bridge over the Illinois River, a female built her nest in a Chinese lantern which decorated a light in the dance hall, and in spite of noise, lights, and confusion, she brought off a family of babies successfully.

7. That house wrens occasionally build nests largely of metal. A banded wren built her nest employing no sticks, but used broken strands of rusty chicken wire. Only the egg cavity contained horse hair and feathers. (The nest was presented to the University of Illinois Museum by Miss Jessie Brackensiek.) That the following year the same banded female moved to a farm a mile east and helped herself generously to the farmer's shingle nails and constructed her nest similarly from these rusty nails and some small pieces of wire, again padding the nest cup with hair and feathers.

8. That normally most bluebirds have young upon the arrival of the house wrens, so the piercing of eggs is negative or limited; but on years when freezing weather destroys the first complement, it advances incubation two weeks and thus throws the bluebirds into direct competition with the wrens, with a corresponding increase in the destruction of eggs by piercing.

9. That prairie horned larks often line the heel print of a person's shoe with grass and use the impression as a nest. She is one of our earliest

nesters and she has been known to remain on the eggs during snow storms until the snow was half an inch deep about her.

10. That on the ferry boat across the Illinois River at Kampsville, a prothonotary warbler has built for several years in a box erected on a post on the side of the boat. When the young are hatched the mother flies from shore to shore, feeding the babies with insects gleaned from the willow trees on the nearer bank.

11. That the bands of Tanglefoot placed about our elm trees to protect them from canker moth caterpillars are fearfully destructive to little brown creepers. The mouse-like little birds work slowly up the tree and often, instead of flying over the obstruction, try to hop through, thus being hopelessly besmeared with the sticky adhesive.

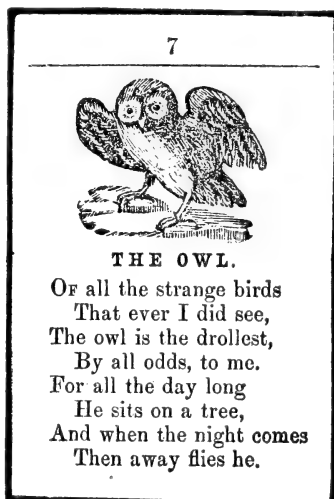
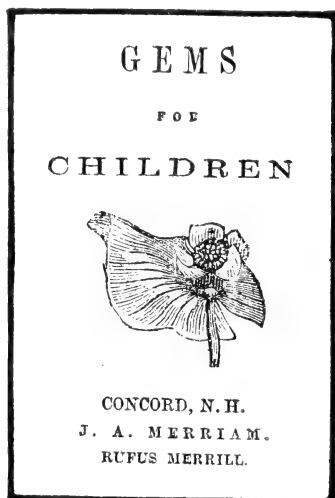
12. That a well-placed bluebird box occasionally acts as host to four distinct nests in a single season.

Quincy, Illinois.



An Early Child's Book

BIRD BOOKS with descriptions and illustrations of greater or less accuracy have been in existence for centuries, but the idea of popularizing the study of ornithology and of interesting children by means of books specially designed for them is comparatively recent. There are now books on the market with beautifully colored plates and concise descriptions of the more common species, and sold at prices that permit them to be placed in the hands of a great many young students.



To prove that this has not always been so we are reproducing the cover page, and the one other page which deals with a single well-known bird, of a small "book" circulated some seventy years ago. It consists of the

cover page and a total of seven pages of material as informative as that we show—which is a far cry from the books that are familiar to us today.

The original, which measures $2\frac{3}{4}$ by $2\frac{1}{8}$ inches, was loaned to us by Miss Marie Hostetter, a librarian, who has made a collection of similar early editions of literature for children.



WHEN 10 WILD CANADA GEESE dropped down on one of the Fox River farm fields last week, farm residents were reminded that it soon will be time for their annual series of debates with hunters. Each fall, farmers within a 100 mile radius of Chicago find scores of city hunters at their doors, asking permission to shoot rabbits, pheasants, quail, ducks, geese and other game. Each farmer has to decide whether to permit hunting, allow a limited number of hunters on his property, or ban all hunters.

The hunting season for waterfowl, including ducks and geese, opened last Saturday in Illinois, so the immediate problem before the Fox River farmers is how to protect the visiting honkers. The men themselves would not shoot the birds, therefore they will not permit others to hunt the geese on their land. Similarly, they have a good population of pheasants and at least three sizable coveys of Bob White quail.

The aesthetic and economic value of these wild birds is so great, from the farmer's standpoint, that they wouldn't think of killing the game. When they work in the fields or drive down the farm roads, they enjoy seeing a covey of quail flush from a fencerow, or a gaudy cock pheasant whirl over a cornfield. Secondly, a heavy population of game in farm fields represents profits on the farm ledger because the birds are valuable for their consumption of destructive insects and weed seeds.

The hunter's major point in debating farmers on the hunting problem is that the game belongs to the public, not to the landowner. Furthermore, the hunter buys a state hunting license, hence it is his money which supports the game hatcheries which restock farm fields.

The farmer's retaliation is that there would be no game except for his maintenance of vegetative cover for the birds. Furthermore, the farmer's right of controlling the use of his land is guaranteed by trespass laws.

The final point stressed by farmers is that indiscriminate permission to hunt, especially on lands near a metropolitan center, results in overcrowding and endangers the lives of hunters and live stock. Last week a farm boy in Kendall County was injured when a rifle bullet fired by a squirrel hunter entered his knee.

One way of solving the problem of finding hunting places for city hunters is that of providing state owned land for public hunting. The Illinois department of conservation now owns three sites in the Illinois River valley where sportsmen may hunt ducks without charge, and a public pheasant hunting preserve will be opened near Fox Lake, in Lake County, Nov. 11, opening date of the upland game season.—“Day by Day on the Farm,” *Chicago Daily Tribune*, Oct. 14, 1945.

Whitecrowns and Blue Lupine

By MRS. ARTHUR B. CODY

A TWO HOUR TRIP by train took us just where we wished to be in the golden dunes, in blue lupine time.

When in doubt, as we occasionally are—Madame Henriette and I—we go to the sand hills adventuring. But there is a certain time in May when we are never in that annoying mental condition.

Slipping in a few belongings in a much traveled bag, well covered with fascinating reminders of rambles in England, France and Italy, we were off on our annual pilgrimage, leaving our loved and loving families to fend for themselves a few days—our necessities at this time being birds, brooks, blossoms, especially the blue lupine.

Thoreau writes with perfect understanding and sympathy of this flower, with delicate pealike blooms and pink buds, which “paints the whole hillside with its blue. Its leaf was made to be covered with dew drops. I am quite excited by the prospect of blue flowers in clumps, with narrow intervals. Such a profusion of the heavenly blue, the Elysian color. That is the value of lupine, the earth is blued with it.”

And here it was, as we neared the sand hills, in clumps, with narrow intervals, the golden dunes blued with it.

Our immediate destination was a small, clean farm house, — a five minute walk from the much-initialed shelter, dignified by the name of station. As usual it took us a full half hour; there were so many delights in the long deep ditches at the side of the country road, edged with bushes and filled with tangles of wild grape-vine, and clumps of snowy crinkle root. We were too late to attend the early service of matins, when every blade of grass was bedewed; that was for the morrow.

It was the quiet hour for bird songs too, but we renewed acquaintance with many old friends who, we knew, would later have much to say to us at the vesper service we always attended. Catbirds were in and out of the low bushes, and we saw the glint of the Maryland yellow throat. Madame Henriette declared that a certain society had decreed the name of the latter be changed to northern yellow throat. So be it! It is just as saucy and fascinating under a new name, and as for Madame, she always has a certain number of technicalities to arrange in her mental mosaic, then she is ready for the joy of it all, unhampered.

A small bird with a white throat and line over eye, proclaimed the Carolina wren; there was a goodly number of song sparrows, thrashers, towhees, and an occasional wood thrush.

Hearing the outdoor dinner bell (we were expected) for the noon meal, we hurried, and were soon enjoying a bountiful repast, in our usual solitude of two, for early in the season there are generally week-enders only. The windows gave on woods, meadow, and apple trees in blossom; chipping sparrows everywhere unafraid, — the air blue with barn swallows, always to be found in the old barn.

We were soon on our happy way to a bridge beloved of the phoebes, and for a long time marked "unsafe," although a little pile of new lumber showed that someone was thinking of rendering this sign void, and the spot consequently less interesting.

We planned to spend the time in lovely woods, near stream and marsh, until the vesper hour. There were late violets; blue phlox, prettily purple-pink, even in dying; wonderful white trilliums up the trail; columbine, a favorite with our humming birds not yet come — and always the blue of lupine.

Not far from us in the mud of the brook edge was a solitary sandpiper, much bespeckled, with white or grayish back and an extremely pretty barred tail of black and white. He was rapidly picking up many tid-bits which no doubt compensated somewhat for his lonely life.

Spotted sandpipers, too, came to look at us. In order to identify these little birds—a trifle over seven inches—it was not necessary to note the black line through the eye, and black spots on white breast; their musical peet-weet, and incessant "teetering" introduced them at once as the tip-up or teeter snipe.

A phoebe was apparently furious that we should sit comfortably on the bridge; no doubt we were on the roof of her home.

Oven-birds were wee-cheeing their loud, persistent *accelerando* from the woods; and we had the pleasure of seeing another friend given to solitary habits, — the little green heron. A beauty he is, of some seventeen inches, shiny greenish crown, green back, and splendid red-chestnut neck. He was sitting on a log, watching, no doubt, for a meal of frog's legs, of which he is very fond. In a moment he saw us and flew off, uttering his single sharp squawk. We lost sight of him, but he is so clever in merging himself in his surroundings, no doubt he had his eye on us all the time.

It was almost time for four o'clock vespers, so we wended our way to a venerable apple orchard, where we had a life interest in a log-backed pew. From it we could see an unusually lovely crab apple tree, a trifle late in blooming. A fairy had touched each individual bud, and under the influence of the magic wand each had turned a pretty pink face up to the sun.

As we seated ourselves on grassy cushions, the jays commenced to ring bells for service, — a trifle cracked, but in the open air we did not find the sound disagreeable. Wood thrushes from a little distance fluted "Come to pray, come to sing," and they came, singly, in pairs, in groups.

There was a program, a bit informal but very beautiful.

Among the soloists the robins furnished the staccato music, the rose-breasted grosbeak, the rich legato; more flutes, this time by meadow larks. A catbird gave a medley, as he gives only in the spring; when we closed our eyes it seemed as if he were a dozen different singers. Bluebirds added their sweet contralto, and several warblers their high pitched soprano, fortunately short.

We listened to the song of the indigo bunting with its curious ending of "fish, fish, fish, fish," all in moderate tempo; to song sparrows, without

which no program is complete; to silver notes of the field sparrow, and the insistent chipping of their small cousin. A group of goldfinches gave us the violin-like music; towhees took part, and many warbling wrens.

The woodpecker family was well represented, too, while beneath them, on tree trunks, were white-breasted nuthatches and black and white warblers. The wood thrushes still fluted sweetly from time to time, "Come to pray, come to sing," sometimes adding a lovely harp-like arpeggio.

The admonition was no longer necessary, for almost every family in the dune-land was represented, and strange to say, by the males, a unique congregation, — and at an afternoon service, too!

A tufted titmouse called for "Peter" repeatedly, and we could not tell whether or not he came; but of one thing we were sure, the insistent call for "Phoe-be" to attend vespers, brought no response. Perhaps she was too busy with family cares in the bridge home.

Many kingbirds were there, but took no active part in the singing; even when they flew from the fence after a passing insect they returned so quietly and so quickly to their seats that no one was disturbed.

We thought the program at an end when the field sparrow had given a second hymn, but from a gnarled apple tree a sudden single note like a golden blast from a trombone — Attention! Our pew was almost overturned, so startled were we. In breathless expectation we resealed ourselves, but not another note from our oriole, as he flew to another tree, resplendent in the orange and black livery of Lord Baltimore. The conductor, whoever he was, had evidently planned this dramatic coup as a herald for a large group of white crown sparrows, which instantly appeared, — very chic, carrying their heads, in striped white and black caps, with most aristocratic airs.

The closing hymn of vespers was begun; a long note first — "My faith looks up to Thee." This refrain was taken up by many of the white crowned group, from the ground, fence and brush. The outdoor chapel was fragrant with the incense of apple blossoms, and was filled with the purity, sweetness, and reverence of the closing hymn of the white crowns.

Vespers were over. Quietly the congregation flew away; singly, in pairs, in groups, as they had come, and we walked silently homeward, on the Sunset Trail.

From *Birds and Blossoms*, copyrighted 1925, by Mrs. Arthur B. Cody



The Problem of the Cat

By MARGARET MORSE NICE

A RECENT LETTER to the *Chicago Sun* minimizes the part played by cats in the destruction of birds. The best authority on this subject is Edward H. Forbush's "The Domestic Cat: Bird Killer, Mouser and Destroyer of Wild Life," published by the Massachusetts State Board of Agriculture. This eminent ornithologist wrote of the cat:

"It has disturbed the biological balance and has become a destructive

force among native birds and mammals. It is a member of one of the most bloodthirsty and carnivorous families of the mammalia, and makes terrific inroads on weaker creatures. It is particularly destructive to certain insect-eating forms of life, such as birds, moles, shrews, toads, etc. Every year the cats of New England undoubtedly destroy millions of birds and other useful creatures, therefore indirectly aiding the increase of insects which destroy crops and trees. . . . Apparently the cat has few legal rights. In most countries the law seems to regard it as a predatory animal which any person may destroy when 'found doing damage on the premises.' (pp. 106-107.)

In Worcester, Mass., Judge Utley handed down the following decision: "A cat is a wild animal. There is no wilder animal in Christendom. . . . A man on his own property has a right to protect it, and when wild animals encroach on it, he is justified in getting rid of them."

Cats have been known to kill from 10 to 14 birds a day and as many as 58 in a season. They are scavengers in all sorts of filthy places and in consequence are carriers of disease, probably of scarlet fever, smallpox and diphtheria, certainly of ringworm, typhus and rabies. People have lost their eyes as a result of cat scratches, and others have suffered loss of life or limb from blood poisoning resulting from bites from these animals.

It is not good sense to punish a person for destroying a bird or nest and yet allow one to keep with impunity carnivorous animals that slaughter many birds a year. Each person is held responsible for the depredations of his other domestic animals on other people's or public property; why should the most dangerous creature of all be exempt? If the owner should be made to pay the stipulated fine (\$25.00 - \$300.00) for each insectivorous bird killed by each of his cats, the problem would be in a fair way towards solution.



A SHORT LETTER from Mrs. Jessie Burch, written during a visit to her former home in Battle Creek, Mich., tells of an unusual experience while at the home of Mr. Edward M. Brigham, Jr. She writes:

"I wanted especially to tell you about the great horned owl Mr. Brigham has trained. Each night after dark he goes out and calls, 'Buster, where are you?' In a few minutes the bird answers with a shrill whistle and comes in out of the dark with a whirr, landing at Edward's feet. I was so thrilled to see it that tonight I asked if I might feed him. So we called, and soon Buster was on the ground in front of me, eating kidneys from my hand. I shall never forget the thrill of it. Buster is at least a foot and a half high, and Edward thinks the wing spread is about three feet. A man brought him to the museum last May; at that time he was three or four weeks old."



*"There's not a leaf upon the tree,
There's no blue shred to grace the sky,
Yet some glad spirit whispers me
The spring is nigh."*

FOR MANY YEARS farmers, sportsmen, and ornithologists have been debating heatedly about the crow. Most farmers dislike the crow because it damages grain fields, particularly spring plantings. Sportsmen have used the crow as a target because they have seen evidence of how the birds, which they call "black bandits," destroy the eggs of pheasants, ducks and other game birds. Many conservationists and ornithologists have taken the crow's side of the debate because it has been proved that the bird consumes great numbers of insects and thus counterbalances the damage it does to crops and game birds.

This spring the crows did considerable damage in the cornfields on the Wheaton farm. We have noted areas in two fields which are barren because the crows consumed the corn seeds and seedlings.

Despite their depredations, however, the men on the Wheaton farm now are wondering if the crows shouldn't be decorated with a few "service bars" for their destruction of the grasshoppers. These troublesome insects are abundant this year, and the crows are consuming them by the thousands. The ring-necked pheasants also are feeding heavily on grasshoppers, and even the little bob-white quail probably are consuming a few of these insects. But it is the crows which are serving the farmers this season as the major devourer of grasshoppers.

Examinations of the stomachs of all three of these birds prove that the hoppers provide a portion of their diet. Several years ago federal biologists examined the stomachs of more than 2,100 crows collected in 40 states and Canadian provinces. Analysis of these stomachs showed what the birds consumed during every month of the year. It is significant that grasshoppers formed 14 per cent of the crow's diet in July, 19 per cent in August, and 19 per cent in September. In addition, these birds had consumed many other harmful insects, including May beetles, ground beetles, and caterpillars. The rest of their diet consisted of corn, other grains, fruits, and weed seeds.

There is a striking similarity in the feeding habits of the crow and the ring-necked pheasant. A study by Minnesota scientists showed that 68 per cent of the ring-necks' diet during September is corn, mostly waste grain which falls to the ground. Eleven per cent of the pheasants' diet in the same month is weed seeds, and 15 per cent is insect life, mainly grasshoppers.

Quail consume grasshoppers, crickets, and beetles, but these smaller birds depend upon vegetable matter for about 85 per cent of their diet.

From these statistics it isn't possible to make positive conclusions on the merit of campaigns to destroy crows. Sporadic campaigns of shooting, trapping, and even dynamiting of the crows' roosts have not appreciably decreased the crow population. Crows are among the most intelligent of all birds, as any sportsman knows.

They are wary of anything unusual in their home woods, and they have a system of warning calls which make them among the hardest of all birds to decoy.—Ben Markland in "Day by Day on the Farm," *Chicago Daily Tribune*, Aug. 22, 1943.

Natural Enemies of Birds

IN A STATE OF NATURE the natural enemies of any species are as essential to its welfare as are food, water and air. That this is true is well known to biologists, but many people are slow to realize the fact. They see only the apparent damage to a species and do not recognize that there is also a beneficial effect upon the species preyed upon.

The strong sentiment for protection of game birds has resulted in many cases in an attempt to exterminate their enemies. Hunters, sportsmen and gamekeepers persecute all creatures that kill birds or destroy their nests or young. With the increasing number of game and bird preserves it is more than possible that the destruction of so-called "vermin" may be overdone and that serious consequences may follow. The great scheme of nature requires insect-eating, fish-eating and flesh-eating birds and animals to serve as a check upon the increase of other species. These in turn have a certain controlling effect on vegetation, and thus is life on this planet regulated.

Nature, in the effort to prevent the extinction of any species, tends to produce an excess of offspring and thus increase its numbers. The rate varies with different animals, but if this increase were to be unchecked they would multiply to the point where the food supply would be exhausted and the species die of starvation. Or, if the food habits should change, as they sometimes do under emergency conditions, they would interfere with others to the point where all would become extinct, either from starvation or from the diseases that result from crowding and weakness from shortage of food. By disposing of surplus individuals their natural enemies prevent this, keeping the numbers low enough to prevent serious competition for food. Any species having an excess of food will increase rapidly and natural enemies are necessary to keep its increase below the limit of food supply.

Natural enemies also act to preserve the fitness of a species in two ways: first, they act to prevent the spread of disease; second, by eliminating the weak and unfit they preserve the strongest, most active, most efficient, to carry on the species.

Epidemics that occur among birds, just as they do among humans, are checked by the natural enemies which easily capture and destroy those weakened by disease, since such creatures act and react more slowly than do those not affected. Also, sick birds might be captured by enemies that would be too slow to take them if they were healthy and vigorous. The red-shouldered hawk, for instance, feeds mainly upon reptiles and mice, taking very few small birds, but if a bird should become slow and incautious from disease it might easily become a victim of the hawk.

Professor Spencer F. Baird wrote on this subject many years ago as follows: "It has now been conclusively shown, I think, that hawks perform an important function in maintaining in good condition the stock of game birds by capturing the weak and sickly, and thus preventing reproduction from unhealthy parents. One of the most plausible hypotheses explanatory of the occasional outbreaks of disease amongst the grouse of Scotland has been the extermination of these correctives, the disease being most virulent

where the gamekeepers were most active in destroying what they considered vermin."

The quail of South Carolina are sometimes attacked by a contagious disease which makes the birds so stupid that they come out into the open and stand or lie in the sun. Hawks readily pick them up and the progress of the disease is stopped. Certain preserves are known to have been stripped of quail because of the trapping of the hawks which had kept down the disease.

Similarly, the injured, deformed, and those whose reactions are slower are among the first to be captured and killed, while the strong and active individuals escape to continue the species. Albinos and others that do not have the protective coloration of their kind are more easily seen and are more readily caught, thus preserving in the succeeding generations the natural color patterns of the species. It is evident that the production of excess young is of service in maintaining a species only when natural enemies check that increase by removal of the unfit.

But it is not all so simple as the above would make it seem. There are other natural enemies of the birds than the hawks, owls and other birds. They include weasels, squirrels, snakes, rats, mice, etc., which, if they were permitted to increase without check, would bring about similar disastrous conditions. A single pair of meadow mice in a single year produced 83 young. These young begin to breed when about 46 days old, and the total descendants of one pair, if all lived and bred, has been estimated at over a million mice at the end of one year. Meadow mice are not a great menace to birdlife, but this great excess of production furnishes a large source of food supply to the hawks and owls that might be more seriously destructive, and so the mice are of service to the birds if they themselves are held in check. Incidentally, the loss in the United States due to rats and mice in buildings and on the farms runs into many millions of dollars annually, and would increase enormously if they were not controlled by their natural enemies. All excessive killing of hawks and owls is therefore, if only for this reason alone, definitely against good public policy.

Some strange combinations have been traced in this balance of species against species. The skunk is commonly known to seek out and destroy the nests and eggs of ground-nesting birds such as the grouse, pheasant and quail. On the other hand, the snapping turtle is a real menace to young waterfowl that frequent shallow waters to escape the danger from large fish. Dr. Edward Howe Forbush tells of watching turtles during four summers while they deposited their eggs near the shore of a river. In every case, within 24 hours skunks had unearthed and eaten every egg. Thus the turtles, by providing a supply of eggs, quite likely attracted the skunks away from the birds' eggs and saved many early broods. Again, on the other hand, the skunk, by destroying the crop of young turtles, befriended the young ducks, and a strange circle of unintentional protection was completed.

The large hawks, too slow themselves to catch most small birds, feed commonly on snakes, frogs and squirrels, which are enemies of those same

small birds, and thus become protectors of the very ones they would catch if they could. Dr. Forbes' description of the whole series of forces as "pressing one on another like an arrangement of springs, working one against another, keeping all in place, thus maintaining the general equilibrium and safeguarding the general welfare" is quite apt.

It is a common position among hunters and sportsmen to say that the natural enemies of birds are more destructive than the hunters themselves, and that there is no way to increase the birds until those enemies, which they speak of as vermin, are first destroyed. However, they lose sight of the fact that before the white man came to this country to interfere with the balance of nature, there was an abundance of all kinds of wildlife in spite of the presence of eagles, hawks, owls, skunks, weasels, raccoons, and other foes of the birds far more numerous than now. It cannot be said that the natural enemies of the birds had any tendency toward their extinction. That was left to man to accomplish by his ruthless killing of the passenger pigeon, health hen, and others that were then abundant. At the close of the Civil War, during which very little, if any, hunting had been done in the southern states, game animals and birds were reported as having greatly increased in spite of the same lack of control of the so-called vermin. If nature is undisturbed, about all the birds that the land will support will be reared unless man comes in to disturb the natural balance.

One can hardly do better than to quote Dr. Forbush's comment on "Man's Misdirected Activities," where he writes:

"The activities of civilized man in the destruction of predacious animals are not always well directed and regulated. Often the activities are guided more by prejudice than by knowledge and reason. We destroy the great horned owl, the greatest enemy of the crow, and crows become unduly numerous and injurious. If we seriously reduce crows, robins, on which they prey, probably will become so abundant as to do great injury to small fruit, as they have already in some western states. The indiscriminate destruction of herons, hawks, owls, crows, skunks, weasels, and other enemies of rats, mice and the larger insects is sure to result in great periodical increases of such creatures, which are far more dangerous to man's interests than are their enemies, and he is often powerless to check their devastating hordes. They never can be checked by humans without great effort and expense. In a region devastated by field mice what will happen to the eggs and young of game birds that breed upon the ground? The climbing wood mice destroy eggs and young of small arboreal birds and take birds' nests for their own use. Birds can rear no young where swarming insects ruin every green leaf and blade. If we kill off all the large birds, the small birds are powerless before any great irruption of insects. When such insects become numerous, the larger wading and rapacious birds feed upon them almost exclusively, and because of the much greater quantity of food they require are then far more beneficial than the smaller birds; also while feeding on abundant, easily obtained insects or rodents they have little incentive to prey on smaller birds, which are left more free and unmolested also to feed on such pests as they can master. Most people will agree that it is imperative in settled regions to extirpate

such baleful creatures as the wolf or the rattlesnake, but the views of the well meaning but misinformed man who advocates the extermination of the lesser native natural enemies of birds, or even their general and indiscriminate slaughter, should be given no serious consideration."

The killing of hawks in migration for sport or bounties, when many hundreds are killed in a day as they were at Hawk Mountain, Pennsylvania, before the Emergency Conservation Committee took over the control of the present sanctuary, should be prohibited, for some of these birds are essential to the general welfare. Discrimination should be used as it is unsafe to deplete too far the numbers of any but the most powerful and dangerous predators.



A Visit with a Woodpecker

*I can recall an orchard gnarled and old
 Where round plump pippins showed their cheeks of gold
 Amid the leafage one ripe autumn day.
 A crooked lane had led my steps that way,
 And scaling the low barrier of a stile
 I wandered down the deeply-fruited aisle.
 There was no voice to cry me yea or nay
 Till suddenly, as I strayed on, I heard
 A most insistent tapping overhead
 As though "Who comes? who comes?" some one had said.
 I paused and listened. Was the sound a bird?
 Yes, for I saw above me on a limb
 A crested woodpecker all trig and trim
 Who craned his neck and cocked a gleaming eye.
 "Don't be afraid!" I called, "it's only I!"
 He seemed quite satisfied with my reply.
 "All right!" he tapped. We visited, and he
 Showed me odd things I had not dreamed to see;
 His store of grubs, his lodging for the night,
 His treasure there—four eggs of snowy white;
 And then we parted. . . . Memory avers
 That I learned much about sleek woodpeckers.*

—CHARLES COMMERFORD.



ANIMALS KNOW what they have to know in order that the species may continue, and they know little else. They do not have to reason because they do not progress as man does. They have only to live and multiply, and for this instincts suffice them. Neither do they require any of our moral sentiments. These would be a hindrance rather than a help, and so far as I can see, they do not have them.—*John Burroughs.*

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

ACTIVE MEMBERS	\$2.00 annually
CONTRIBUTING MEMBERS.....	\$5.00 annually
SUSTAINING MEMBERS.....	\$25.00
LIFE MEMBERS	\$100.00

THE
AUDUBON
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Spring Migration of Warblers in Chicago Region

By HARRY R. SMITH

WE IN the Chicago region are in one of the favored spots of the world to observe the migration of birds, but I sometimes wonder if we make the best of our opportunity as we experience the thrill of this annual drama of nature. Oh yes, we have great fun in recording 100 or more species on a fine May day, but should we not be making more of a contribution to the facts needed to solve the many riddles of migration?

At the close of 1945, I finished 10 years of records covering observations made principally during spring migration. Since the movements of warblers occupy such a prominent place in these records, this paper has been prepared to present data on the comparative abundance of these species, as well as dates of earliest and latest observations, and the average period of maximum abundance.

This study is confined to the spring migration of warblers because the *positive identification* of birds seen in the fall is too small in proportion to the total seen, to give an accurate picture. I have never recorded a bird when there was a doubt in my mind as to its identification without a note to that effect and none of these doubtful records are included in these pages.

The figures presented in the two tables are confined to observations made in the Chicago region with Waukegan the farthest point north, Joliet the maximum distance south and west, and the Indiana Dunes the farthest distance east. With the exception of three years when I was on vacation for the two weeks ending in the first week of May, I made observations of approximately nine hours spread over an average of five days per week, during the first three weeks of May. For the week following this period and the three weeks preceding it, I averaged about four hours, recording four days per week. Approximately one half the days missed in the three weeks from May 1 to May 21 were due to rain.

Since my records show the location where each bird was identified and roughly two-thirds of these are within a few blocks of my home in south Evanston, it is fair to assume that I spent about six hours per week in Evanston and averaged three hours in the Forest Preserves or other more distant places, usually on week-ends. Field observations in Evanston were generally confined to periods of 15 to 30 minutes around 7:00 o'clock in

the morning and 30 minutes to one and one-half hours after 4:30 o'clock in the evenings.

The territory covered in Evanston is more favorable for migrating warblers than one would expect in a residential neighborhood. Most of the backyards are large with a rather heavy growth of shrubbery, and I regularly visited three vacant lots, two of which were covered with a dense thicket for most of the ten-year period, and one of them was in a secluded area on the lake. There is also a pool in Calvary Cemetery around which I spent considerable time.

Some indication of the possibilities of this general section may be gained from the fact that I have recorded three yellow-breasted chats in the vacant lots, another one and a woodcock in a backyard 100 yards from my home, two Henslow's sparrows in a yard back of our apartment and a lark sparrow only two blocks away from my home.

In working up these records I was reminded of a lecture Dr. Oberholser gave to the Chicago Ornithological Society. He impressed upon us the fact that even the most experienced ornithologist has little conception of the number of birds seen at a given time unless he has *actually counted and recorded them*. Obviously, it is even more difficult for an amateur to make estimates in field work, and if I had not made notes and recorded them with considerable care, I would not believe some of the results. If I did not have a definite record, I would never believe that there was actually one year out of the ten that I did not see a black-throated green warbler; I would not believe that I saw an average of less than eight bay-breasted warblers per year, nor that four species of warblers comprised well over half of all warblers seen.

I now regret that I did not record various data that would have added materially to the information accumulated, such as more exact notes on the weather, and a sample count at least once or twice each year of the proportion of identifications to the total numbers seen in a day.

A comparison of the average arrival dates in table 1, with those shown in "Birds of the Chicago Region" published by The Chicago Academy of Sciences, discloses that, in most instances, my dates are almost a week later.

I found that there is not so much a definite peak in arrival dates, but rather a plateau. That is, the maximum number of each species seen extends over a period of several days. Some seasons the peak of abundance is limited to a single day, but over a period of years the maximum is of several days duration.

In table 1 under the heading "maximum" I have shown the average range of dates for this sustained period of abundance. Whether or not it can be assumed that all were new arrivals or that a substantial number of those recorded during this period were present for several days, raises an interesting question. As a general rule though, it is known that migrants increase their rate of travel as they approach their nesting grounds, and in most instances warblers have covered the major portion of their northward journey when they reach our section. Weather conditions are also a factor to consider. However, I believe it is reasonable to

TABLE 1
ARRIVAL DATES

<i>Warblers</i>	<i>Earliest</i>	<i>Maximum</i>	<i>Last</i>
Black and White	4-24-44	May 4 to 12	5-30-40
Prothonotary	5- 2-43	*	5-31-37
Golden-winged	5- 9-36	*	5-16-43
Brewster's	5-19-45	*	5-19-45
Lawrence's	5- 9-36	*	5- 9-36
Tennessee	5- 6-43	May 12 to 20	5-23-37
Orange-crowned	5- 2-43	May 13 to 17	5-21-37
Nashville	4-30-42	May 8 to 15	5-27-45
Northern Parula	5- 9-37 & 42	May 14 to 16	5-24-37
Yellow	5- 4-37, 40, 43	May 9 to 16	5-24-43
Magnolia	4-29-38	May 10 to 20	6- 3-45
Cape May	5- 7-43	May 15 to 17	5-27-45
Black-throated Blue	5-12-43	May 14 to 18	5-27-45
Myrtle	4- 5-45	May 5 to 12	5-23-45
Black-throated Green	5- 1-42	May 12 to 16	5-24-36
Blackburnian	5- 6-39	May 14 to 18	5-27-45
Chestnut-sided	5- 8-36	May 14 to 17	5-27-45
Bay-breasted	5- 8-38	May 13 to 16	5-26-45
Black-poll	5- 7-39	May 15 to 19	5-23-37 & 42
Northern Pine	5-14-44	*	5-20-38
Prairie	5- 9-44	*	5- 9-44
Western Palm	4-28-38 & 39	May 7 to 12	5-27-45
Oven-bird	5- 2-36	May 12 to 21	6- 8-45
Grinnell's Water-Thrush	4-28-38 & 40	May 8 to 14	5-26-43
Louisiana Water-Thrush	5- 6-39	*	5-27-45
Kentucky	5- 7-42	*	5-27-45
Connecticut	5- 7-41	May 21 to 25	5-29-45
Mourning	5-19-40	May 21 to 25	6- 5-45
Northern Yellow-throat	4-30-42	May 11 to 16	5-30-36 & 37
Yellow-breasted Chat	5- 9-44	*	5-17-44
Wilson's	5-12-39 & 45	May 15 to 23	6- 6-45
Canada	5- 9-43	May 17 to 25	6- 3-45
American Redstart	4-21-42	May 12 to 21	6- 7-45

*Total too small to establish maximum period.

suppose that with the exception of summer residents, birds remain only one day in the immediate territory where they are recorded and that two or more days would be the exception. This theory is further borne out by the results of banding done by Mr. Karl Bartel at Blue Island, Illinois. Mr. Bartel informs me that out of some 400 warblers banded, he has had but one repeat; that bird repeated the day following its banding.

In the treatment of the dates and numbers given in the two tables, I have arbitrarily treated all species as migrants. This, of course, is not always the case but I believe it is perfectly justified in this study as comparatively few of the total are resident birds. Any material inaccuracy of such a plan would be reflected only in the "late" date observed. Furthermore, I have made allowance for this situation by including no record

where there was a probability of its referring to a nesting bird. Also, the increase and decline in numbers of summer residents, such as the redstart, show no appreciable variation from strictly migrant birds. This would indicate that the number of birds among our summer resident species, actually nesting in our area, is very small in relation to the number that pass on north.

Assuming that the beginning date of the "maximum" period in table 1 corresponds to the "average arrival" date in "Birds of the Chicago Region," my greatest variation in arrival dates is in the case of the myrtle warbler, which I show to be May 5 as contrasted with April 12 for the Chicago list. I have only six records of the myrtle warbler prior to April 12, and my later average date may be partially due to the fact that I spent comparatively little time in the field previous to that date. It is most significant though that I saw 67 birds the week following April 12, but the first week in May I recorded 87, and the second week 123, which indicates the trend was still upward when I was making observations regularly. However, there is a very wide fluctuation in the numbers of this warbler and additional earlier observations could change my averages materially. I saw only one from May 5 to May 11 in 1938. For the same period in 1944 I saw 30, and on May 9, 1937, I recorded 34.

The Connecticut and mourning warblers, which, unlike the myrtle are seen in very small numbers, offer interesting comparisons with the Chicago list both as to arrival dates and relative abundance. It shows the "average arrival" of the Connecticut warbler to be May 15 and the mourning warbler, May 16. I recorded one of the former on May 5 in 1941, and one of the latter May 19, 1940, another May 20, 1938, and all others of both species on May 21 or later. Furthermore, about half of the mourning warblers were recorded after May 23. Although the total of the two species observed amounts to only 28, one or the other was recorded at least once each year during the ten-year period. These facts seem to indicate very definitely that the average date of these birds is May 21 or later.

My figures on the relative abundance of these two warblers also varies from the Chicago list. It describes the Connecticut as "fairly common" and the mourning warbler as "uncommon," but I have seen the former only 11 times and the latter 17 times. This reverse order of the numbers seen is not important as a few additional years' observations could easily change this order. The significant fact is that out of nearly 4,000 warblers entered in my records, a species that was seen only 11 times and recorded only 6 out of 10 years is listed as "common."

I do not regard the "earliest" date as listed in table 1 as very important since the real increase in numbers in many cases does not start until a week or ten days later. As an illustration of this point, I show the "earliest" record for the yellow-throat to be April 30, 1942, and during the next six days I saw only three more, but by May 7 there was a definite upward trend with six on that date.

I am well aware of the fact that there are many factors that influence any compilation of the type I have made. One of the most obvious of these

TABLE 2
RELATIVE ABUNDANCE

<i>Warblers</i>	<i>Total</i>	<i>No. of Years Seen</i>	<i>Per Cent of Total</i>
1. American Redstart	616	10	15.51%
2. Western Palm	587	10	14.77
3. Myrtle	557	10	14.03
4. Magnolia	474	10	11.91
5. Northern Yellow-throat	204	10	5.14
6. Chestnut-sided	182	10	4.58
7. Black and White	166	10	4.18
8. Blackburnian	138	10	3.47
9. Oven-bird	125	10	3.15
10. Wilson's	122	10	3.07
11. Grinnell's Water-Thrush	116	10	2.92
12. Nashville	112	10	2.82
13. Black-throated Green	109	9	2.74
14. Canada	83	10	2.08
15. Bay-breasted	78	9	1.96
16. Yellow	73	10	1.84
17. Cape May	70	10	1.76
18. Black-poll	30	8	.76
19. Northern Parula	21	5	.53
20. Mourning	17	8	.43
21. Black-throated Blue	16	8	.40
22. Orange-crowned	15	7	.37
23. Tennessee	15	7	.37
24. Connecticut	11	6	.28
25. Louisiana Water-Thrush	7	4	.18
26. Yellow-breasted Chat	7	5	.18
27. Prothonotary	6	5	.15
28. Golden-winged	5	2	.13
29. Kentucky	4	4	.10
30. Lawrence's	3	1	.08
31. Northern Pine	2	2	.05
32. Brewster's	1	1	.03
33. Prairie	1	1	.03
TOTALS	3,973		100.00%

would be the proportion of time the observer spent on areas bordering water. The type of habitat at the water's edge would also have a definite bearing upon the birds seen. My records for water-thrushes, the prothonotary warbler, yellow-throat and other species particularly partial to water, would, of course, be materially increased if a greater percentage of my notes had been made at the edge of a stream or pool. But when we are attempting to maintain some sort of a norm, how shall we decide upon the amount of water that constitutes the typical warbler habitat? This question of what is "the average" continually occurs and the solution is often difficult or impossible.

It was largely due to this fact that I was at one time inclined to present the figures I had assembled in two or three tables and let the reader draw his own conclusions. However, Mr. Philip DuMont, one of those who encouraged me to work up this study, was of the opinion that proper treatment should include some explanation and interpretation of

the figures. In addition to the preceding comments, I am, therefore, listing each species indicating my conclusions as to its status and relative abundance based upon the ten years of observations.

Black and White Warbler — A common migrant. Its ease of identification probably has some bearing on the number recorded.

Prothonotary Warbler — A rare migrant and summer resident. The relative abundance shown in table 2 is probably not representative because not enough records were made in habitats it frequents. All my observations of this warbler were in willows near or over water.

Golden-winged Warbler — A rare migrant and rare summer resident. I saw four in Memorial Park Cemetery May 9, 1936, and one on May 16, 1943, just off Sheridan Road a block from my home.

Brewster's Warbler — Rare. Saw one in Calvary Cemetery May 19, 1945 in a low bush at a distance of less than six feet.

Lawrence's Warbler — Rare. The three listed in table 2 were seen with the four golden-winged warblers mentioned above.

Tennessee Warbler — An uncommon migrant. Probably more common than my record indicates because it is seen most often in the tree tops.

Orange-crowned Warbler — An uncommon migrant. Like the preceding species, probably more plentiful than indicated because of dull plumage and difficulty of identification. Table 2 shows that I have recorded both of these warblers the same number of times and the same number of years. "Birds of the Chicago Region" refers to the Tennessee as "common" and the orange-crowned as "uncommon."

Nashville Warbler — A common migrant. Identification is not always obvious.

Northern Parula Warbler — An uncommon migrant. I have seen it only five years out of ten.

Eastern Yellow Warbler — A fairly common migrant and a summer resident. Although it is ordinarily regarded as "common," for some reason my average observations is only a fraction over seven per year.

Magnolia Warbler — One of the four most abundant migrants.

Cape May Warbler — A fairly common migrant. The late W. I. Lyon had a theory that the warblers' northward advance was influenced somewhat by the blossoming of fruit trees, but this is the only one I ever thought of as seeming to have a preference for feeding among the blossoms of fruit trees.

Black-throated Blue Warbler — An uncommon migrant. I have seen only 16 in the past ten years and none were recorded in 1936 and 1940.

Myrtle Warbler — An abundant migrant. The percentage shown is probably too high due to the fact that it appears early in large numbers when no other members of the family are present and hence no competition in recording it.

Black-throated Green Warbler — A common migrant. Surprising that I saw none in 1939.

Blackburnian Warbler — A common migrant. Easy to identify but usually feeds well up in the tree tops.

Chestnut-sided Warbler — A common migrant. Forbush and May class it "as a bird of the shrubbery and lower branches" but I never thought of it in that way. I believe I recorded it just as often well up in the trees.

Bay-breasted Warbler — A fairly common migrant. Easy to identify. Its color pattern somehow gives it the appearance of being a large warbler.

Black-poll Warbler — Appears on the list between two groups I am designating as "fairly common" and "uncommon." A regular migrant but in my experience seen infrequently, and only as single individuals.

Northern Pine Warbler — A rare migrant. One day in the fall of 1937 I was making observations in Calvary Cemetery with a man I regarded as a keen bird student and he was "identifying" about one-half of the birds we were seeing as this species. I was amazed at my own ignorance until I realized he was recording at least two different species as pine warblers.

Prairie Warbler — A rare migrant. Saw it once on May 9, 1944, in Calvary Cemetery. Two weeks earlier, the same year, I had seen it several times in southern Indiana.

Western Palm Warbler — Another of the four most abundant warblers. If fall migrations were included, it would head the list. Another case where effortless identification would affect the total listed.

Oven-bird — A common migrant and a summer resident. Single birds observed regularly on the ground, under shrubbery in backyards.

Grinnell's Water-Thrush — A common migrant. This and the northern water-thrush are not distinguishable in the field, but based upon present concepts of distribution the Grinnell's is most likely to be the bird encountered in our region.

Louisiana Water-Thrush — A rare migrant. This is probably more common than my list indicates, but I am, of course, depending on sight records and there were only seven occasions when I could satisfy myself that it was not one of the species mentioned above.

Kentucky Warbler — Rare. More likely to be a summer resident than a migrant in the Chicago region. One of the most freakish observations I ever made was to see one of these birds near my home on October 4, 1942. It seemed to be in full spring plumage and I observed it at close range for five minutes.

Connecticut Warbler — An uncommon migrant. Recorded six years; never more than two in a year except in 1945 when I saw four, all after May 24. Am sure the total would be higher had I regularly done more field work the last week of May.

Mourning Warbler — An uncommon migrant. Of the 17 birds recorded, seven were observed last spring. As in the case of the Connecticut warbler, I believe this was due to more late spring recording, as I saw two on May 27, one May 30, two June 3, and one June 5. My first sight of it has always been below eye-level. This and the Connecticut warbler are the last to arrive.

Northern Yellow-throat — A common migrant and a summer resident. Partial to low shrubbery near water.

Yellow-breasted Chat — Rare summer resident. It is possible one of those recorded was starting to nest.

Wilson's Warbler — A common migrant. Another of the late arrivals. Saw eight between June 3 and June 6 last year.

Canada Warbler — A fairly common migrant. Also a late arrival. Recorded five on June 6, 1945.

American Redstart — Most abundant migrant and a summer resident. Simplicity of identification may have some influence on the high proportion recorded. Oddly enough, the greatest number of any warbler I have ever observed at one time was not in the spring, but on September 5, 1936 in Calvary Cemetery when redstarts were feeding on every tree and bush. I made a sample count of 150 by plotting, and estimated a minimum of 600 birds in the eastern half of the cemetery.

In addition to the 33 species listed, "Birds of the Chicago Region" includes seven additional species which I have not seen in our area. This is not surprising as they are all rare for this territory, but it is a singular fact that I have never seen the blue-winged warbler when I have seen both of its more rare hybrid offsprings—the Lawrence's warbler and the Brewster's warbler. Mrs. Amy Baldwin tells me she sees the blue-winged warbler nearly every year in the Indiana Dunes; however, this does not indicate that its appearance is frequent for few of us have the rare combination of Mrs. Baldwin's keen knowledge of birds, and her boundless enthusiasm and energy for constant field trips, regardless of weather or distance.

I have previously admitted that more observations early in the season would have some effect on averages, but I want to cite a significant experience which shows that more intensive observations during the last ten days in May might well have the effect of a counter-balance on earlier observations. On Sunday, May 27, 1945, I spent about three hours in different localities when there was a real "wave" of warblers. With extremely bad visibility and most of the birds high in the tree tops, I recorded 14 species among 48 individuals. This incident also shows the necessity for regularity of records, if we are to know what is the exception and what is normal. I saw very few birds May 26 yet the many birds observed on the following day had a very material effect on both my 1945 list, and the "last" dates for the 10 year period. I presume this was an unusually late movement but I am not at all sure about it.

In the frequent comparisons with "Birds of the Chicago Region" I have had no thought of criticizing its authors. We should all be most grateful to Mr. Ford and his associates who compiled the list. I am sure they made the best possible use of the facts available at the time but I believe we do need much more information for an enlarged revision. Numerous situations like the count of May 27 indicate that this information should come from *daily carefully written* records by many observers in various habitats and localities.

Castle Rock

By JAMES N. LAYNE

AS ONE DRIVES SOUTHWARD on Highway 87 from Denver, Colorado, a great hill soon appears in the distance. Its summit, high above the plain, is a huge rock formation whose sheer cliffs bear a striking resemblance to a medieval castle. Thus Castle Rock loomed before me that Sunday morning in May as I eagerly drove toward it. Larger and more imposing it grew as the miles slipped past, until finally the ribbon of concrete curved round its base and I came into the little town which lay in the shadow of the massive rock.

Leaving the car beneath the great cottonwoods which lined the village street, I set out toward the edge of the town. The first species of bird that I noted, besides the common house finch, was the Lewis' woodpecker. These large woodpeckers were quite numerous in the trees about me, and the early sun heightened the pleasant contrast between the dark rose color of their underbodies and the glossy black of their upper parts as they flew crow-like about in the air, which was filled with their cries.

As I began to ascend the slopes at the outskirts of town, a female sparrow hawk flew overhead and landed on a telephone pole a short distance up the hillside. She was soon joined by her mate who, after a bit, left his perch and soared aloft. Rising several hundred feet, he cruised back and forth over the area. Suddenly checking his forward motion, he hung motionless, like a diminutive kite above the earth. Poised on still wings, the brightly colored falcon intently scanned the ground beneath. Then in a twinkling his wings were closed to his sides and like a stone he dropped, disappearing behind some boulders. His intended victim, a mouse or an insect, evidently escaped for he rose empty-clawed. Again he mounted upward to resume his tireless patrol.

I must confess that as I neared the steep cliffs above I had eyes for little else than the white streaks which stained the walls in many places. Here was an almost definite sign that the prairie falcon, the bird I sought most to see this day, was close by, and perhaps even nested in the jagged cliffs. I had long dreamed of seeing this magnificent creature in action, and now through fate and the Army Air Forces I was in the region inhabited by these falcons. So, with my mind filled with the descriptions I had read of their wild beauty and dashing flight, I continued my climb with increased speed.

The hillside about me was alive with towhees. Although positive identification was impossible, I believe that they were the spurred towhee as that is the sub-species of chewink common to that section of Colorado. They were not in the least shy, permitting me to come within several feet as they perched in the scrub oaks before dropping to the ground. Once on the ground they would vigorously rustle about in the dry leaves which lay between the boulders.

Finally I stood in the cool shadows of the overhanging cliff. It was here that I found several "castings," the discovery of which strengthened

my belief that prairie falcons did inhabit Castle Rock, although as yet there was no sign of them. On the other side of the hill an enterprising and adventurous climber had at some time built a rather rickety wooden stairway leading to the top. Mounting the trembling structure to the plateau, I began to search the edge of the cliffs for the falcon's eyrie. At one point I leaned far over the edge in an attempt to examine the contents of a crevice about twenty feet below. While in this precarious position I suddenly felt a rush of wind through my hair, accompanied by a sound as though a rock had whistled past my ear. Above me, shooting up to the heavens, was a large sandy-colored bird—a prairie falcon!

My pleasure was far greater than his in my breath-taking introduction to this royal denizen of the upper strata. High overhead the falcon coursed nervously back and forth, sometimes gliding in so close that I could see the dark moustache marks on the sides of his throat and the rich brown barring of wings and tail, and sometimes swooping out over the town and plains beyond. Assuredly a male, the bird showed great concern at my presence on the cliff, and after a few minutes of circling and diving he dropped low and slipped into the darkness of the crevice which I had been watching when he put in an appearance. Making all possible haste, I descended the stairs and ran down the path that led beneath the ledge which the falcon had entered. I frightened the bird from the cavity as I approached and he flashed upward like an arrow loosed from a bow. His exit brought the female to the opening. She was much larger than her mate, which is always the case with raptores. While we stared at each other, not more than twenty-five feet apart, I could see the large yellow feet, armed with deadly talons by which the falcon lives. In the keen, dark eyes and exquisite perfection of her body I saw why these birds have been endeared to the hearts of falconers down through the ages, for in every line of her body and in her every action was daring, speed, courage, and intelligence, the very qualities that men strive to achieve or imitate, but never so well.

The spell was broken when I made a slight movement and the hawk launched out over the hillside, uttering a weak, plaintive note. She flew, on wings evidently stiff from non-use due to long hours of incubation, to a rock which jutted out from the cliff several hundred feet away. The male, meanwhile, was savagely diving at me, and one could hear the whistle of wind through his primaries while he was still a long way off as he raced in to the attack.

An interesting incident occurred at a later visit to the eyrie. The eggs had hatched, as evidenced by the cries which issued from the nest ledge, and the male falcon was on hand to challenge me. His reckless plunges were even more daring than at the previous visit, if that were possible. My companion on this visit was a small dog of mixed ancestry that joined forces with me as I started up the hill. We had just climbed the stairway to the plateau and the dog had run on ahead over the rocks. As he drew away from me a feathered projectile sped in at him, narrowly missing his head as it rocketed upward. Here was an object on which the hawk could vent his rage. Every time the dog would stray a few feet from me the falcon would come in at a strafing level, causing the animal to flatten itself

against the rock in abject fear. Frequently the rush of wind from the bird's "stoop" would raise the dog's hair the length of its back. Reports of prairie falcons, when disturbed about their nests, attacking ravens, owls, and other species of hawks with which they normally live in more or less harmony, are common. But a dog being the target of an irate falcon is rather novel.

On my first visit I did not remain long at the cliff for fear of causing the eggs to become chilled during the absence of the parents. So from a place of concealment I watched the female return to the eyrie, and then began to descend the hill. It seems that I was to have one more thrill this day, for as I picked my way among the rocks and bushes a golden eagle sailed into view around the corner of the cliff. It spied me instantly and banked its huge chocolate-brown body away. I watched while it circled upward as if climbing an invisible staircase until it disappeared in the blaze of the sun.

Further on I saw several mountain chickadees flitting around in the shrubs along the path. When I came into the valley many magpies were to be seen slipping about. I examined several of their nests and was amazed at the almost impenetrable fortress which they constructed of sticks, mud and grasses; and each nest was large enough to fill a bushel basket. While crossing the fields to the village numerous meadowlarks flushed from beneath my feet; and perched on a fence were a pair of mountain bluebirds. Robins were also abundant, but contrary to their city relatives, were suspicious and unapproachable. A flock of red-winged blackbirds swayed in the topmost branches of some trees which lined the banks of a little creek; and beyond a red-tailed hawk traced an unseen circle in the heavens.

As I entered the town I turned once more to wave farewell to the rulers of Castle Rock and the broad, sweeping plains about it—rulers whose subjects feared and respected them, yet sovereigns who lent far more to their domain with the beauty of their presence than they would ever take from it.

(NOTE—Mr. Layne, a former student at Lane Technical High School, is now stationed at Smyrna, Tenn., and in a letter accompanying the above writes as follows: "I have been able to do quite a bit of birding at this station. Over the holidays I visited Dr. Walter Spoffard of Vanderbilt University, and participated in a Christmas census under the direction of the Tennessee Ornithological Society with him. Our list totaled 53 species and over 361 individuals, not counting robins, of which there must have been three or four thousand. I don't believe I have ever seen a species of bird so common as the robins were on that day.")

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A Word from the Pacific

SOME OF OUR naturalist friends have already been separated from their service in the armed forces and we welcome them home. They have all retained their interest in wildlife during their service, and we hope that a continued interest will help to settle them into the somewhat changed

routine of civilian life. In the meantime there are still some in service and we are always glad to hear from them with comments on what they are seeing.

George Kent, according to a letter recently received, was in Leyte at the end of November, 1945, but expected to be returned to the States before this time. That he was still interested in the birds is shown by the following excerpts from his letter:

"I am 20 miles farther south of Tacloban than I was before. We are on a beach facing Leyte Gulf, and behind us is a swamp. Being away from town makes it better for birdlife. Since coming here I have seen a number of new birds, about ten that I hadn't seen before on this island, and almost every day a new one pops out of the swamp. We are isolated, also, so all in all there are more birds around.

"In getting here we have to go through a swampy area, with coconut trees and palms and thick grasses. I have seen several rails run across the road, and a gallinule which may be the purple swampphen, as spoken of in 'Birds of the Southwest Pacific'; it looks like the description given of it. Another similar to one the book describes looks very much like and is the size of the *Coucol* family. Still another I saw today looked like the myna, but until I can get a book on Philippine birds I shall just have to wait to see what they are.

"Along the river the other day I saw several sandpipers, and from the swamp back of us come various sounds of the birds in it. One sounds like a bittern or some of the rails. Several days I had been hearing what sounded like our bluebird, when one day I glimpsed a small azure-blue bird, slightly smaller than our bluebird, as it flew out of the swamp. Whether that was the bird that gave the song I heard, I do not know.

"All fresh water, swamps, and such areas are hosts of a small parasite, *Schistosoma Japonaca* (blood fluke), which causes a very dangerous disease that attacks the liver and stomach. So we all have to keep out of the swamps. That is why I haven't been able to go into them and investigate the sounds. I should like to find out what makes them all, but shall have to satisfy myself with what I can see flying out."



Unusual Winter Birds

SOME VERY INTERESTING REPORTS have been received during the fall and winter observations of birds not commonly seen in northern Illinois. The most spectacular of these concerns the snowy owl, which is being seen this year in one of its cyclical migrations. During periodic seasons of scarcity of its usual food, principally mice, lemmings and rabbits, the snowy owl ranges south from Arctic Canada to our northern states, and this is one of those seasons. Being large birds, nearly snow-white, and feeding during daylight rather than at night as do other owls, they are readily seen. One stayed in Chicago on Northerly Island, south of the Planetarium, for several days. Two were seen in Indiana Dunes Park. That they have come down in considerable numbers is shown by a Michigan report which states that

more than 300, in 57 counties, have been shot, captured or seen since the flight began.

Another visitor that has been reported is due to the same food problem that sends us the owl. It is the northern shrike, a cousin of our summer resident, the migrant shrike, and has also been seen in unusual numbers.

During the fall months two very unusual visitors were reported. One, the marbled godwit, is represented in "Birds of the Chicago Region" by one lone report, yet was identified in Evanston, and again in Jackson Park, Chicago. The second, which does not appear in "Birds of the Chicago Region" at all, was the western grebe, identified by competent observers as being seen in Lake Michigan. Both of these, from the absence of previous reports, must be considered "accidental."

Another that can hardly be called less uncommon is the king eider. Two young males remained in Belmont harbor for several days, where they were studied at close range and as positively identified as they could be without having been collected. Others on the list this year that are infrequently seen along the lake were the glaucous gull, Iceland gull, and parasitic jaeger. These may all be more common than we suspect out in the open water of Lake Michigan, but, if so, they stay well out and are seldom reported.

Yet another family has sent down two of its species from Canada to make the past season remarkable. One, the evening grosbeak, is erratic in its visits, and its presence in any year cannot be forecast; nor can any locality expect to see it again because it has once appeared. It has been reported from Morton Arboretum, at Lisle. The other member of the family, the pine grosbeak, is seen somewhat more often, but is still listed as "unusual." Both Waukegan and the Arboretum have been its host.

And then there is that intriguing feathered acrobat, the red crossbill, whose apparent handicap proves to be a perfect adaptation for the snipping out from the cones of the pine seeds that are its food. It has again been reported from the pine groves at Morton Arboretum, along with the pine siskins. The crossbill is another of those irregular ones that may be found in a place for a few winters and not be seen again for several more. It is an interesting member of the group of unusual birds which have honored us with their presence this winter.



To Complete Your File

THE ILLINOIS AUDUBON SOCIETY was organized in 1897 and soon thereafter began the publication of the *Audubon Bulletin*, usually in annual numbers. In 1939 this was changed to a quarterly period, and this issue is Number 57 in the series.

Published in that time have been articles by many persons of both state and national reputation which should be of value to all who are interested in the wildlife of our country. Most of this material is still as true to present conditions as it was when written, and represents the observations

of outstanding ornithologists through the years. Wouldn't you like to read what they have had to say?

In a survey of old numbers of the *Audubon Bulletin* remaining in our hands it has been found that there are more copies of most of the issues than are likely ever to be necessary for a satisfactory reserve stock. Consequently, it has been decided that an offer of as nearly complete a series as possible should be made to our members or to anyone interested in having a file of the *Bulletin*. Number 1, the initial issue, is completely out of print, and of Number 15 and 16 very few copies remain. To anyone sending us one dollar to cover the cost of packing and mailing we will send an as nearly complete file as remains when the order is received.

The Chicago Academy of Sciences offers a complete file of *The Chicago Naturalist* from 1938 to date, except Volume 6, Numbers 1 and 2, to members of affiliated societies and to members of the Academy at a nominal charge of one dollar to cover the cost of packing and postage.

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*When he's taking his nap in the dead of the winter,
His house, without mercy, you hammer and splinter,
And the grub in the willow, Oh, Downy Woodpecker,
Regards you, no doubt, as a spoiler and wrecker.
But we, who afar hear your rub-a-dub-dub,
Say, "Just a poor woodpecker earning his grub!"*

—EDWARD R. FORD.

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Christmas Census — 1945

THE EXTREMELY INCLEMENT WEATHER which occurred during the week that was assigned for the taking of the Christmas census, resulting in an unusually cold period and dangerously icy roads, did not seriously interfere with the project this year, although the near-zero temperatures that prevailed during most of the week and the hazardous driving conditions must have kept many enthusiastic observers at home. The number of species reported, 69, and of individuals, 11,914, in seven reports, compares quite favorably with the 1943 season, when the count was 45 species and approximately 4,000 individuals, also from seven reports, while it is but slightly under the count for 1944, which totaled 75 species and about 15,000 individuals from nine reports.

Blue Island, Cook County. In vicinity of Oak Hill banding station and fields south and east; Dec. 23 to Jan. 4 (list shows largest number seen in any one day); ground covered with snow; temperature from 35° to -5°: Rough-legged hawk, 1; marsh hawk, 1; pheasant, 1; herring gull, 150+; hairy woodpecker, 2; downy woodpecker, 8 (all banded); bluejay, 2; crow, 5; tufted titmouse, 2; white-breasted nuthatch, 1; starling, 400+; English

sparrow, 100+; cardinal, 3; goldfinch, 2; slate-colored junco, 15; tree sparrow, 8; song sparrow, 1; total, 17 species, 702+ individuals. Four robins were seen a few days before the season.—Karl E. Bartel.

Evanston, Cook County. Memorial Park cemetery, Harms Woods, Morton Grove, shore of Lake Michigan in Evanston, and Wilmette harbor (same area as in 1943); hardwoods 30%, agricultural fields and weed patches 50%, lake shore 20%; Dec. 29; 9:00 A.M. to 4:00 P.M.; overcast and foggy, mist after 10:30 A.M.; wind SW, 8 to 10 mph; crusted snow overlaying $\frac{1}{2}$ " ice on ground; temperature 32°-38°; streams and ponds frozen but Lake Michigan open; four observers together; total hours afield, 15; total miles, 16 (14 by auto, 2 on foot): American golden-eye, 23 (only 1 adult male); American merganser, 2 (immature); Cooper's hawk, 1; red-shouldered hawk, 1; American roughleg, 1; pheasant, 2; herring gull, 14; downy woodpecker, 2; blue jay, 1; crow, 22; black-capped chickadee, 3; starling, 30; English sparrow, 12; cardinal, 4; redpoll, 8; goldfinch, 1; slate-colored junco, 1; total, 17 species, 128 individuals. The decided scarcity of birds combined with unsatisfactory observational conditions resulted in a poor list. The absence of tree sparrows, song sparrows, hairy woodpecker, nuthatches and creepers can hardly be explained by the weather since food is still available.—Philip A. DuMont, Mrs. John Helmer, Mrs. John R. Mannix, Mrs. Paul A. Stephenson (Evanston Bird Club).

Havana, Mason County. Chautauqua National Wildlife Refuge and Quiver Creek bottoms; water and marsh edge 70%, agricultural fields 30%; Dec. 23; 7:30 A.M. to 5 P.M.; clear in A.M., cloudy in P.M.; 6" snow, crusted; wind E, 3-15 mph; temperature 20° to 29°; lakes frozen over, creek open; total hours afield, 9; total miles, 24 (6 on foot, 18 by car): Canada goose, 185; mallard, 2,600; black duck, 300; wood duck, 3; American golden-eye, 5; Cooper's hawk, 1; red-tailed hawk, 5; bald eagle, 14 (9 adults, 5 immature); marsh hawk, 1; bob-white, 6; pheasant, 2; coot, 1; ring-billed gull, 68; mourning dove, 5; screech owl, 2; red-bellied woodpecker, 9; red-headed woodpecker, 3; hairy woodpecker, 1; downy woodpecker, 16; blue jay, 12; crow, 26; black-capped chickadee, 39; tufted titmouse, 12; white-breasted nuthatch, 6; starling, 120; English sparrow, 66; cardinal, 38; slate-colored junco, 171; tree sparrow, 135; total, 29 species, 3,850 individuals.—Louis H. Ellebrecht. (NOTE.—Small number of mallards attributable to earlier peak migration [420,000 on November 14], small flight in general through the Illinois River Valley, the early freezing over of the lake on December 12, and difficult local feeding conditions occasioned by ice and snow in the fields.)

Lake Geneva, Wisconsin. Around entire lake by car; lake front 30%, cattail marsh 10% swampland 25%, open farmland 5%, deciduous woods 30%; Dec. 23; 7:30 A.M. to 4:30 P.M.; clear; temperature 10° at start, 18° at return; 7" powdery snow; 10 to 15 mile wind from east all day; few open spots in lake; observers together; total miles, 33 (25 by car, 8 on foot): Common loon, 1; Canada goose, 6; mallard, 250; black duck, 50; redhead, 1; ring-necked duck, 3; canvasback, 3; scaup, 1; golden-eye, 162; buffhead, 2; hooded merganser, 2; American merganser, 17; red-tailed hawk, 3; pheasant, 22; coot, 11; Wilson's snipe, 1; herring gull, 11; red-

headed woodpecker, 3; hairy woodpecker, 1; downy woodpecker, 3; blue jay, 7; crow, 31; chickadee, 16; white-breasted nuthatch, 3; northern shrike, 2; starling, 3; English sparrow, 17; rusty blackbird, 1; slate-colored junco, 1; tree sparrow, 27; song sparrow, 2; total, 31 species, 663 individuals. First winter record for snipe since 1932.—Earl Anderson, C. O. Palmquist.

Lisle, DuPage County. 800 acres within the Morton Arboretum; Dec. 30; 9:30 A.M. to 4:00 P.M.; clear; NW wind; temperature 25°; ground covered with 4" crusted snow; 13 observers together using three autos; 10 miles by auto, 6 miles on foot: Cooper's hawk, 1; red-shouldered hawk, 1; sparrow hawk, 1; pheasant, 3; herring gull, 11; great horned owl, 1; long-eared owl, 2; short-eared owl, 4; saw whet owl, 1; belted kingfisher, 1; hairy woodpecker, 1; downy woodpecker, 3; blue jay, 5; crow, 10; black-capped chickadee, 6; tufted titmouse, 1; golden-crowned kinglet, 3; starling, 4; English sparrow, 4; cardinal, 3; pine siskin, 18; goldfinch, 22; slate-colored junco, 11; tree sparrow, 1; total, 24 species, 118 individuals.—Chicago Ornithological Society, Karl E. Bartel, Field Chairman, Mrs. Amy Baldwin, Mr. Clark, Craig Orear, Miss Draheim, Mrs. Gelatis, Mr. and Mrs. Grosboll, Mrs. Kroehler, Mrs. Lilly, Mr. Nork, Mr. Schonog, and James Watson.

Springfield, Sangamon County. Same area as in previous years, 7½ miles radiating from Springfield as a center and including Lake Springfield; 45½ miles covered; terrain made difficult by ice and snow: Mallard, 2,200; black duck, 125; pintail, 2; American merganser, 36; rough-legged hawk, 1; red-tailed hawk, 1; red-shouldered hawk, 2; sparrow hawk, 2; bob-white, 62; herring gull, 6; ring-billed gull, 38; mourning dove, 3; rock dove, 10; screech owl, 1; barred owl, 1; belted kingfisher, 1; flicker, 10; red-bellied woodpecker, 14; red-headed woodpecker, 10; hairy woodpecker, 12; downy woodpecker, 28; prairie horned lark, 16; blue jay, 58; crow, 390; chickadee, 49; tufted titmouse, 30; white-breasted nuthatch, 8; brown creeper, 3; Carolina wren, 1; golden-crowned kinglet, 1; starling, 1,588; English sparrow, 1,003; red-winged blackbird, 4; bronzed grackle, 2; cardinal, 40; evening grosbeak, 2 (Eifert); goldfinch, 62; towhee, 1; junco, 223; tree sparrow, 102; song sparrow, 9; total, 41 species, 5,961 individuals.—Mr. and Mrs. Herman Eifert, Mrs. Lena Hardbarger, Lois Hardbarger, William V. O'Brien, William Butler, N. E. Nilsson, James Moffitt, Norman Castleman, Lois Hopwood, Christine Bonney.

Waukegan, Lake County. Open water in Lake Michigan and Waukegan harbor and dunes and ravine north of Waukegan; Dec. 29; 10:30 A.M. to 4:00 P.M.; foggy; NW wind; temperature about 32°; ground covered with crusted snow: Mallard, 50; canvasback, 1; lesser scaup, 100; greater scaup, 5; golden-eye, 15; bufflehead, 2; old squaw, 5; ruddy duck, 3; American merganser, 24; red-breasted merganser, 2; bald eagle, 1; pheasant, 12; coot, 1; herring gull, 240; hairy woodpecker, 1; blue jay, 1; crow, 12; bronzed grackle, 1; cardinal, 1; purple finch, 1; goldfinch, 4; slate-colored junco, 8; tree sparrow, 6; song sparrow, 2; total, 24 species, 498 individuals.—Dr. Alfred Lewy, Dr. L. K. Caldwell, Harry H. Hagey, Sydney Stein.

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

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Effects of DDT on Wildlife in a Mississippi River Bottom Woodland*

By LEO K. COUCH, U. S. Fish and Wildlife Service, Chicago, Illinois

INTRODUCTION

IT IS DISTURBING to find DDT (dichloro-diphenyl-trichloroethane) released for public use long before adequate research has revealed its limitations. Its promise as the ultimate Utopia in insecticides seems to overlook dangers to other forms of animal life. The effectiveness of DDT for household use in curbing flies, bedbugs, and mosquitoes, military use in controlling lice that spread typhus, and against insects of veterinary importance, has been demonstrated. In agriculture and forestry, potential dangers have not been fully appreciated. In fact, applications of DDT in the outdoors, whether on marshes, lakes, streams, on crop and pasture lands and in forested areas, present a serious threat to fish and wildlife species. Only now are we becoming aware of the possible misuse of this powerful chemical in the hands of the uninformed public.

This paper covers observations before and after extensive applications of DDT on forested lands along the Mississippi River from August 5 to October 6, 1945. The area administered by the War Department is known as the Savanna Ordnance Depot Proving Grounds, located in northwestern Illinois. Assistance of the Army Sixth Service Command, Chicago, and military personnel of the Ordnance Depot is gratefully acknowledged. Dr. E. M. Searls, entomologist for the Sixth Command, rendered personal aid in furnishing personnel, equipment and transportation, making it possible to collect considerable data over a wide area. Flyway Biologist Robert H. Smith assisted with observations at the October spraying.

OBJECTIVES AND PLANS

While this region along the Mississippi has not been classed in a serious malarial zone, the presence of malaria carriers among Italian prisoners of war caused Army authorities some concern over the possible spread to military and civilian personnel working on the post. Experiments were designed to test the airplane method of applying DDT for mosquito control. An invitation was extended to the U. S. Public Health

*This paper was presented at the 11th North American Wildlife Conference, New York City, March 12, 1946.

Service and the Fish and Wildlife Service to send observers. Tests were to range from 0.2 to 5 pounds of DDT per acre. But recent tests by the Bureau of Entomology and Plant Quarantine and military areas had shown lower rates were effective. Last minute plans were changed to 0.5 pound per acre, and these were held uniformly for the August and September sprayings. In October, due to weather conditions and changes in plane control, the application was far from uniform.

Objectives were to note by extensive observations the effect of DDT on fish and wildlife, including birds, mammals, reptiles, amphibians, fish and crustacea. Populations were noted before and after each of three sprayings, and any dead or affected individuals recorded.

DESCRIPTION OF THE SPRAYED AREAS

Now that the war is over, a more detailed description of the area can be given. The Savanna Ordnance Depot is about 12 miles long and 3 miles wide, including some upland consisting of rolling prairie on which the ammunition dump is located. These upland areas were not sprayed except in the immediate vicinity of headquarters. The sprayed portion can logically be divided into three areas, one containing the flood plain of the Mississippi River below the Bellevue Dam, a large island, and the headquarters area, which included the Apple River for a mile above its mouth, covering in all about 4,000 acres. The lowland area was composed of mixed old-age hardwoods: chiefly hard maple, ash, elm, birch, willow, pin oak, and swamp cottonwood. Since 1918, the entire area has been closed to hunting, and it might be said that all wildlife has had total protection for 27 years. There is little undergrowth and but a few shrubs due to the closed canopy and the seasonal fluctuations in the Mississippi pool of several feet. A common interior small pond is often in shade, although some are fringed with buttonbush. Most of the hardwoods are past their prime, and as a result, the decayed trees provide in excess of 10 den trees per acre. This, perhaps, partially accounts for the astonishingly high raccoon population. As the pool drawdown is rather sharp throughout the summer, bottom lands are covered with new layers of silt, permitting little vegetation. Occasionally where trees have died from excessive floods, young hardwoods prevail. Buttonbush and a ground covering of grasses, *juncus*, asters, hibiscus, cardinal-flower, and other miscellaneous vegetation grow luxuriantly. Under the canopy of mature hardwoods poison ivy persists in tangled low thickets. Bordering the large ponds and waterways are mixtures of ash, river elm, cottonwood, willows, and tangles of wild grape.

The open water area above the Bellevue Dam near the Illinois shore supports several hundred acres of the American lotus (*Nelumbo pentapetala*), a favorite feeding place for waterfowl in October. With the exception of a good pin oak mast crop, a few grapes and lotus seeds (Yonker nuts), the area did not yield a great deal in seeds, nuts, or fruits, for late summer and fall use by wildlife. Most of the water areas were devoid of pondweeds and other vegetation due to the fluctuations in water levels, and without doubt carp and other fish were factors in causing so

much turbidity in interior lakes and ponds as to influence aquatic plant growth.

The ponds in the vicinity of headquarters were more open, and one near the entrance highway more nearly represented a prairie pond with a good population of amphibians. While most of the spray fell on woodlands, a few ponds typical of open marshes gave some indication of what might happen to marsh fauna.

APPLICATION OF DDT BY AIRPLANE

On August 8, spraying began with a B-25 Mitchell bomber using No. 2 fuel oil as a spreader and solvent in a 5 per cent DDT solution and emulsion, at 10:55 a.m. down river from Bellevue Dam. The plane flew at elevations from 100 to 200 feet, traveling at 200 miles per hour, and through a pipe in the bomb bay door released the spray at the rate of 210 gallons per minute. Tanks in the plane holding 550 gallons were refilled at Truax Field, Madison, Wisconsin. In the August-September sprayings, strips were made from 300 to 400 feet wide, depending on the air currents, and were guided by an Army jeep spaced by Dr. Searls at intervals along the Bellevue Dam and on the highway leading to the Depot headquarters. This ground control was highly important, as it permitted little overlapping and a uniform coverage. Checks made with yellow paper spaced at 50-foot intervals and examination of the rubber expansion cracks on the concrete highway bore this out. The October spraying was done entirely by pilot control from the air, and as a result, several areas were treated 2 and 3 times, while others were missed. It is uniform coverage at the rate planned that minimizes the harm to fish and wildlife. Sprayings were approximately at 30-day intervals.

METHOD OF STUDY

Populations of birds and mammals were determined as nearly as a hasty inventory would permit before and after each of the sprayings. It was assumed that the lists for August and early September represented the resident bird populations, while the October lists were confined to those known to have not been affected as yet by migration through the area. Fourteen mosquito checking stations on the sprayed area were made points for estimating the fauna populations and noting of changes following the sprayings. Two areas on the Iowa side of the Mississippi River, which were not treated with DDT, were used as check areas. Ten ponds were examined in August and October for fish life with the aid of a minnow sweep net and relative changes in populations were noted. While entomologists from the U. S. Public Health Service, Mr. Clarke and Dr. Searls were present, no attempt was made to check closely on insect populations.

EFFECT OF DDT ON ANIMAL LIFE

Insects

Within 30 minutes after the oil spray fell, insects began to shower down through the forest canopy. In general, coverage was effective and while entomologists were assigned to note effects on insects, data was correlated to explain the presence or absence of bird life. Immediate

control of adult mosquitoes and larvae was noted in the August and September sprayings. The drift from adjacent unsprayed areas hastened to repopulate the area and numbers were so restored as to make retreatment necessary at 30-day intervals. The effect on other insect species was likewise very pronounced, and their absence reflected in the presence of insectivorous birds.

Birds

No dead birds were found which could be traced to mortality by DDT. A fresh, partly eaten pied-billed grebe was noted by Biologist Smith on a point bordering the slough near the highway, but the death pointed to predators. Two normal grebes and a wood duck were observed on a slough nearby.

A nest of catbirds with three young was kept under observation for 36 hours, but no noticeable effect was apparent. The young left the nest as normal birds do and were not again seen.

Goldfinches nested along the Bellevue Dam, and while not located, the adult birds were observed busily carrying insects to the young. As this was on the border of the sprayed area, insects were brought from the outside. The day following the first spraying, three flycatchers were observed chasing the same lacewing.

It was apparent that with the sharply reduced insect population, some shifting of bird populations would be made. After the first spraying, from the third day insect eaters began to desert the sprayed area. By September all the insectivorous birds had left the area, with the exception of the woodpeckers. Noticeably absent were swallows, flycatchers, warblers, vireos, redstarts and thrushes, although these birds were in normal numbers off the sprayed area. Particularly noticeable were the swallows feeding above the dam and along the Mississippi proper. Near Station No. 5, which apparently was missed by the October spraying, chickadees and flycatchers were seen. Little dependence was placed on October bird populations as migration was in progress. One flock of over 100 rough-winged swallows was seen on October 3 flying through the sprayed area, but it was noted that no feeding was done. The normal number of fish-eating birds was present throughout, including bald eagles, ospreys, egrets, blue and green herons. Biologist Smith and I observed about 2,000 wood ducks in small flocks fly from the sprayed areas into the lotus beds above the Bellevue Dam on October 3.

Mammals

As previously noted, the raccoon population was exceptionally high in the wooded areas of the Depot, while the crayfish were nearly wiped out by DDT. Apparently it caused no mortality, as the sign was as abundant in October as in August. I observed one female and two half-grown young feeding on sick crayfish about 11:00 a.m., the next day after the first spraying. After 15 minutes of observation, when one young had eaten a dozen crayfish, I captured it and held it for 10 minutes to note any toxic effects. In October it was noted that the raccoons had changed their

feeding habits. Acorns were noted in the scats as were bits of mussel shells. Along the shore of many ponds, small piles of freshly cleaned mussel shells were common, and it is thought that these were feeding places for raccoons. Muskrats likewise eat mussels, but there was little sign of these in the Crooked Fork area.

Other mammals not affected on the area included beavers (three colonies), muskrats, gray squirrels, marmots (one seen), cottontails, and swamp rabbit. Thirteen-lined ground squirrels were numerous in the headquarters uplands, as were foxes and opossums. One black raccoon was seen on October 3.

Reptiles and Amphibians

No snakes were seen in the Mississippi bottoms, so little information could be obtained from all observers. Frogs were abundant in ponds near headquarters and along the highway. Only one dead frog was examined, while in the same pond 20 live ones, including one large leopard frog (*Rana pipiens*), were checked. It was exceedingly difficult to record mortality on frogs as each pond had its share of herons, egrets and raccoons that would leave nothing which might have died for evidence each day. Turtles were numerous in all ponds and channels and no change could be noted in populations or recently killed carcasses found.

Mollusks

Fresh-water mussels (*Anodonta*) were abundant in main channels, and from the evidence of feeding by raccoons, no mortality was caused by DDT.

Crustaceans

DDT proved to be highly toxic to crayfish (*Cambarus*) at these relatively low rates of application. In August in one pond six inches deep Mr. Clarke and I observed all the crayfish were on their backs 20 hours after the first spraying. The pool still had oil coverage on the surface. Three hours later all crayfish (30) were dead in this pool about 10 by 30 feet in size.

In October, in checking all sprayed areas no live crayfish were seen in the various pools, and only a few active "chimneys" among thousands of inactive ones. Fresh mounds by the score and 14 live crayfish were observed at the Iowa checking stations.

Fish

DDT sprayed at less than one-half pound per acre had little effect in the "woods" ponds on fish life. At the spillway into the pool below the Bellevue Dam several common shiners were observed with "D.T's," and it is believed the running water carried the oil bearing DDT to the fish in a temporary mixing with water. Samples of fish populations were taken by a sweep minnow net at various stations, and no reduction in population could be noted.

We located one poacher on the area, who had a set hoop net on the

order of those used commercially in Reelfoot Lake, Tennessee. About 500 pounds of healthy carp were in the net, although the DDT had only been out for about 48 hours.

Twenty-four hours after the October spraying, where the pilot had made three runs over the same channel west of the headquarters building, and, combined with a strong breeze which had drifted the heavy oil spray into one shore, some loss of fish life was noted. One 12-pound carp, evidently affected by DDT, ran ashore and was placed in a small pond for observation along with three toothed herrings (*Hisdon tergisus*). The carp recovered in two days while the herring succumbed. At the same place shiners came ashore, but in a bucket of water dipped from along the shore these likewise recovered after 24 hours. Several other "sick" fish were noted along the shore. One effect of the DDT might be said to make fish more readily available to fish eaters. DDT must have piled up along this shore at the rate of several pounds per acre.

Summary

From these tests, with the careful preparation made by the Sixth Service Command, results show that mosquitoes can be readily controlled with 5 per cent DDT in No. 2 fuel oil sprayed by planes at the rate of between 0.2 and 0.5 pounds per acre. At these levels, provided the spraying is accomplished by experienced pilots who are familiar with the area covered and with favorable climatic conditions, little harm will result to fish and wildlife. After August 1, few nests of birds are occupied. As the *Anopheles* breeding season in this Upper Mississippi area normally begins at this time, spraying from August to October—at 30-day intervals—is relatively safe. If there is agitation for controlling "nuisance" mosquitoes as early as May or June, then bird nesting populations would be affected through removing the food supply.

Certain species of fish, notably toothed herring and several species of shiners and dace, are killed at rates of 0.5 pounds of DDT per acre in agitated waters. In one case, while the quantity was not known, fish killed were at an accumulated rate several times that normally applied.

Crayfish are readily killed at 0.5 pounds per acre and this may also have an effect on raccoon populations. This knowledge, however, may be of practical benefit in controlling crayfish in the South where they cause heavy losses to certain agricultural crops.

CONCLUSIONS

Results of the extensive application of DDT by airplane, without question show this to be an effective method in controlling mosquitoes. The possibilities of uniform application under proper weather conditions on river bottom forested lands has much to commend it over other methods applied from the ground. Relative costs on a private operational basis may prove to be the factor limiting the treatment of large areas. The possibility of commercial treatment of summer resorts is now a possibility with planes available on Government surplus property lists. Extensive coverages

are in prospect for the future and may wipe out segments of our fauna and possibly flora, also.

While the results herein noted at the rates applied show no losses to birds and mammals, the breaking up of food chains through suppression of insects and cold-blooded vertebrates may have serious indirect consequences. Little is yet known of the accumulated effects traceable to DDT, particularly in bird nesting seasons, or the resulting shift of bird and mammal populations.

Intensive research is needed to answer these questions. The present whole-hearted cooperation of biologists, entomologists and public health officials, is a healthy sign that technicians are working together to the end that a useful chemical may perform benefits for the human race, and at the same time preserve those forms of life which we all enjoy and cherish.



Band Bluebirds by the Thousands if You Wish*

By DR. T. E. MUSSELMAN

WINTER'S COLD is scarcely gone before bluebirds employ each south wind to return to their favored Northland. Forty years of records show the average date of spring returns to be the third week in February. From high in the air comes the faint, ventriloqual call of the traveling pairs; and by the first week in March nearly every fence post sports its inquisitive blue-backed renter.

Many years ago local bird students were aware that few bluebirds remained in Adams County. There was no place to nest. A spring survey revealed but three nests, and one of those was an exposed site in the side of a post where a limb had split out a shallow open cavity. I decided to build a few suitable houses and nail them on posts along the highways, and by selecting the nest of a downy woodpecker and modeling my dimensions somewhat after those of this woodpecker's home I was able to develop a neat box, attractive to bluebirds. The entrance was one inch and a half, often filed irregularly larger. The interior was eight inches deep and about $3\frac{1}{2} \times 3\frac{1}{2}$. For birdbanders with large hands I advise a somewhat larger interior.

The first year I built several dozen boxes which I placed on fence posts along Route 96 between Quincy and Hamilton. The success of the venture was immediately evident as by April first practically every box was occupied, and during the year there was a succession of families. Most of the boxes had two nests; several had three; and one acted as host to four different families. The nests are very similar in structure, being built largely of dry blue grass. Occasionally there are decorations, such as a chewing gum paper, chicken feathers, or even snail shells. Only once in 1945 did a bluebird show the characteristic thrush habit of holding the nest together with mud. A banded mother plastered the loose grass ends to the

*This paper, prepared by Dr. Musselman, was read at the Chicagoland Bird-banding Conference, March 23, 1946.

box with mud and rounded the corners with the same material. Later she moved several miles south and nested again, building a nest similar in every respect to the earlier structure.

Most nests have full complements of eggs by the first week in April. In this first nesting the eggs number four, five or six, averaging slightly more than five to a nest, with a better than 90% maturity. Recently several letters have been received—one from a museum, one from the New York office of the National Audubon Society—asking a verification of the interior dimensions of my box plans. Several persons have changed or enlarged this size. Certainly this is wise if an operative has big hands. It makes the interior large enough to allow easy access. But the box as described in my plans is larger than the nest cavity of a downy woodpecker, which is the favorite site of the bluebirds, and it will safely protect and develop six babies. But once have I encountered seven eggs laid by one mother in a single nest, and I have handled and banded literally thousands of young bluebirds. I have found the size sufficiently large.

The second nesting finds three, four, and five egg complements; but the season has advanced, the weather is much warmer, and the mother has already reared one brood. Only 53% of the young mature safely.

The eggs normally are a delightful blue, yet albinism is very common. About 5 to 6% of the nests contain creamy white eggs, yet Mrs. Laskey, of Nashville, reports that babies born from white shells in turn lay blue-shelled eggs. In Nashville, Tennessee, where she experiments, bluebirds are permanent residents and the same birds often use a box several times in succession. In Adams County the birds are migrants, and a banded bird using a box on Route 96 seldom repeats. It normally wanders and I often find its second nest on Routes 104 or 36, several or many miles away.

During normal seasons the size and shape of eggs is constant. However, in 1943 I found many variations. There were several pewee eggs—yolkless little blue eggs about half the normal size—and one jumbo egg was as large as a quail egg and contained a double yolk. Pictures of these eggs will in all probability be published later in the season in *Bird Banding Magazine*.

Predation is limited. As I post the box with the barbed fence wire protecting one side, I seldom find damage from cats. Normally I place the box within several posts of the corner or intersection of two right angle fences. The corner normally harbors a few trees and bushes which furnish protection and food. Never place the boxes too close to wild grape vines or bushes, as inquisitive chipmunks, deer mice, or flying squirrels might discover the precious eggs. Snakes occasionally find and strip the boxes of young. However, the percentage of loss from such sources is small.

The worst interloper is the house wren. Normally the bluebird is located and has young by the time the male wren appears (April 16 to 21). On such years egg piercing is almost negative. The wrens are already established by the time the first brood of little blues take to the air, and the parents have rested and reestablished themselves before the wrens consider nesting a second time.

Unfortunately, about every four or five years we have a freeze accompanied by snow during the first week in April. This often kills a few broody females on the nests, and as many as 5,000 eggs are frozen in the nest boxes. After such a freeze the mothers desert their original nests, and about two to three weeks later they begin nest building again. This delay puts them in direct competition for nest sites with the house wrens. On such occasions I find dozens of complements of bluebird eggs pierced by the rabid wren busybodies.

The new mother builds a flimsy nest of grass over the old nest and the old blue eggs often show through. In fact, the new eggs sometimes rest on or balance between the eggs of the former complement. On one such occasion two mothers laid eggs in the same second nest, one depositing five and the other four, a total of nine eggs. One mother deserted, so I adjusted matters by redistributing the four eggs in other nests containing smaller complements. In handling and making such adjustments, I have never had a desertion or other sign of material distress.

In 1944 we had a year of blustery weather with shifting cold winds and rain. Unusual experiences were numerous that year. East and west exposure boxes with well-cleared drainage holes suffered little. An occasional box facing north or south in which dirt or nesting debris had filled the drainage outlet suffered. Water often blew into the entrance holes and would not drain. In several units I found dead birds. In one box the birds were not old enough to fly. One sparsely feathered youngster had crawled out and had fallen to the ground. The parent birds were frantic. As I approached they attacked, darting at my head, snapping their bills. When the box was opened there was a stinking quagmire. One little bird was dead, several others were cold and wet. I lifted out the tiny sufferers, cleaned the box, rebuilt the nest by putting in a handful of dry dead blue grass which I pushed down in the center, returned the three baby birds and returned to my car. The mother entered the box, apparently gave no notice to the readjustment, but brooded, then later fed her babies, which quickly revived. A week later three banded babies took to the air.

English sparrows will take possession of boxes placed too near barns or homes. In such cases I catch and kill the mother after dark, then burn the nesting material. I have been told that by catching her and cutting the tail feathers off short she will never molest a box again.

Chickadees and titmice occasionally adopt boxes erected close to woods. They are welcome additions and every route includes several such nests each year. I am now erecting a six-sided box with a one inch hole. I round the bottom with papier-mache made by macerating newspaper in hot water, placing a spoonful of plaster of paris and, while it is yet plastic, rounding the surface. This has been particularly attractive to the blackcaps.

Starlings have seldom molested the boxes. On one occasion a starling laid one egg among those of a bluebird. When I later opened the box to

band the babies, four little blues were huddled in the bottom, filthy with excrement from the larger black-colored bird which sat contentedly above, capturing the major portion of the food, little caring for the comfort, health or appearance of the foster brothers and sisters below. I killed him. Then the little birds were removed and washed in a nearby creek. I rebuilt the nest and returned the babies. A week later they were husky, clean and well fed, and about ready to fly.

Cowbirds seem afraid of the side entrance. Seldom do I find an egg of this interloper. Occasionally an inquisitive boy leaves the lid standing open, and then the cowbirds have a field day. The inclusion of three or four eggs is not uncommon on such occasions. Keep the box hinges well oiled and should someone leave the top up, the first wind will blow it shut.

During the winter deer mice build their nests and often young are in the nest at cleaning time about March 1. I try to clean, repair, and give janitor service to all boxes, as well as paint dry units, during February and March.

A yearly increase of 5,000 baby bluebirds in one single county puts a lot of birds on the wires. Certainly we feel justified in accepting the name "Bluebird County of America." It is a fine project for conservationists; and for bird banders, it is one of the most productive and interesting methods of studying and banding birds that I know. Only lack of time prevents my banding several thousand birds yearly, yet going and coming from my nature lectures I normally find time to band from five hundred to a thousand baby blues, and also their mothers who sit quietly on the nest, allowing themselves to be removed and banded. After being returned to the eggs they often refuse to fly, even after restrictions are removed.

I shall gladly send mimeographed plans to anyone who will write me in Quincy and send postage. Should you forget the name, any address, The Birdman, or just T. E., addressed Quincy, will assure delivery.

☞ ☞ ☞

Common Tern*

By C. C. LUDWIG

THE COMMON TERN is one of the interesting water birds along the shores of the Great Lakes and the Atlantic shore line. The bird also is known by other names: Wilson tern, tearr, mackerel gull, summer gull, sea swallow, medrick, pigeon gull, and minnow gull. I assume that you are all familiar with the bird, so I will not go into a discussion of its plumage. It has a wing spread of about 30 inches and is very graceful in flight.

The birds come north usually in the early part of May and, after nesting is completed, they return to the southland, going into the southern states and northern South America. This species prefers to nest in compact colonies on sandy bars, or sometimes on rocky areas. Preference is shown

*This paper was read before the Bird Banding Conference in Chicago, March 23, 1946, by Mr. Ludwig, of Lansing, Michigan.

for the sandy bars with little cover; however, they like to have cover close by. For this they seem to prefer weeds and other low vegetation that will furnish suitable cover during the hot weather and for concealment. The nests are placed sometimes very close together, and hundreds of birds will nest on a small sandy bar. If the earth is right the birds seem to build little in the way of a nest. They will hollow out a place in the sand and sometimes put a few little sticks or a stone or two in the nest. At other times one will find nests that are quite substantially built and of considerable size.

Three eggs usually comprise a setting; however, sometimes there will be only two, and sometimes four are found. The base color of the eggs varies from a chalky white to cream and tan, and once in a while they will be greenish or bluish in color. In all cases the eggs are spotted with brown. The adults are very attentive to their responsibilities while nesting, with the female usually on the nest. The male bird will come in from time to time and bring food to the female. At times with no apparent reason most of the birds in the colony will leave their nests and fly in flocks, circling the island for a little while, then come back and settle down on the nests again. The young birds frequently leave the nests two or three days after they are hatched and come to the nest only when the adult comes in to feed them. I have found adults sitting on one or two eggs with a chick or two hiding under weeds near by. Very seldom have I found chicks of any size that will stay in the nest. One often wonders how the adult birds keep track of their own chicks with sometimes hundreds in the immediate vicinity.

Mr. C. G. Manuel, who spent one month each year for a three year period on Lone Tree Island studying the life cycle of the common tern, said that not over five percent of their food is of any value to mankind. After studying the contents of the stomachs of hundreds of birds, he states that most of the food was surface shiners. Other authors writing about the common tern on the Atlantic coast state that not any of the food of the common tern is of value to man.

In studying the family life of the tern Manuel placed a small fence about four inches in height around one nest and chick, then crawled into a victrola box with a hole in the end of it to see what happened. Both adult birds came in, one of them carrying a minnow. After surveying the scene a little, it gave the minnow to the chick tail end first, but it could not swallow it. The old bird took the minnow and turned it end for end, but still the young chick could not swallow it. The other old bird watching the proceedings walked over, took the minnow and flew out to the water, and, after getting the minnow thoroughly wet, came back and gave it to the chick head end first, after which the chick had no trouble swallowing it. This incident shows that birds do have a good amount of intelligence.

In the 14 years in which we have banded common terns a total of 21,162 have been banded. A list of the different islands and the number banded each year is available if any of you wish it. We have received 112

recoveries reported through the Washington office, and 23 were found dead in the nesting colonies, making a total of 135. This shows only .64% of the total number banded, which looks very small and really is. On ring-billed gulls we have had 2.7% recoveries, on herring gulls 4.1%, and on mourning doves 13.5%. We have banded 81,281 birds of all kinds, with 1,837 recoveries reported, which is 2¼% of the total.

When we visit a nesting colony we always look carefully to see if we can find any birds that have recently died. In 1942 we found five dead birds, two of them banded in 1938, one in 1936, one in 1934, and one in 1932. It is our belief that most of the common terns come back to the same area where they were hatched to nest in future years.

We always band a colony as rapidly as possible and leave at the earliest possible moment so as not to disturb the birds any more than is necessary. Sometimes it makes quite a commotion when we are banding and frequently the birds come quite close to us in an endeavor to frighten us away. A bird will hit one of the banders once in a while. Some years ago my son, who was wearing a white sailor hat and located some distance from where I was, called that a bird had hit him. I looked around quickly enough to see the bird making quite an effort to get on a steady flight. The reason was that the boy was hit hard enough to break the scalp through the hat, and before long he had a lump about the size of a hickory nut. This was the only experience of the kind that we have ever had.

We have never been able to stay long enough in an area to do any trapping of adult birds, but, had we been able to do so, we would have a great many station returns to the nesting area. O. L. Austin, of the Cape Cod, Mass., area, has done more banding of adult terns than anyone else in the country and has had unusual experiences. In 1941 Mr. Austin trapped one bird that we banded, six more were trapped in 1942, and one in 1943. Seven of these were banded on July 17, 1938, on Black River Island, in Lake Huron, and the other one was banded July 16, 1938, on Scarecrow Island, which is seven miles distant. It is certainly interesting that eight birds banded in this area have been trapped as nesting birds on the Atlantic coast.

Birds reported to us through the Washington office came from the following areas: 60 were reported from Michigan, 10 from Florida, 8 from Massachusetts, 2 each from North Carolina and in the Gulf of Mexico, and one each from the following states: Texas, Louisiana, Virginia, New York, Ohio, Alabama, Indiana, Wisconsin and New Jersey. Four were reported from Ontario and one from Quebec. Recoveries in foreign countries were as follows: 4 from Peru, 2 each from Mexico, Panama and Cuba, 1 each from Nicaragua, Honduras, Ecuador and Costa Rica. It is interesting to note the length of time that elapsed between the time the birds were banded and the date of recovery in areas some distance from Michigan. One bird banded July 11, 1931, was recovered at Trujillo, Peru, nine months and twenty-eight days later. Another banded on the same day was captured alive aboard a fishing boat in the Peru area seven years and eight months later. Two other birds were recovered in Peru two years and five months and eight years and five months after banding. In other

countries recoveries were as follows: Mexico, four months and three days and four months and twelve days; Panama, four months and three days and one year and one month; Cuba, four months and sixteen days and four months and twenty-seven days; Nicaragua, two months; Honduras, four months and six days; Ecuador, one year and eight months; and Costa Rica, five years and nine months after banding. Long distance recoveries in the states were as follows: Texas, four months and twelve days; Louisiana, three months and twenty-five days; Virginia, two months and three days; Alabama, four months and five days; North Carolina, three months and eight days; New Jersey, two months.

Two birds were captured aboard a fishing boat 150 miles from land in the Gulf of Mexico, three months and fifteen days and three months and eighteen days after banding. Ten birds were recovered in Florida varying from one month and twenty-seven days to one year and one month.

Careful checking shows that 66 of our recoveries came through the same year the bird was banded, 16 the next year, four the second year, 12 the third year, 9 the fourth year, 1 the fifth year, 1 the sixth year, 1 the seventh year, and two the eighth year after banding. Studying these recoveries very closely, it shows that most of the reports came from birds that were less than one year of age, and it is certainly interesting to know that they would travel as far as Nicaragua in two months, and to Florida in one month and twenty-seven days after banding as young birds unable to fly.

Causes of the death of the various birds were given as follows: found dead, 71; caught and released, 13; recovered, 7; killed, 5; collected for museum specimens, 5; shot, 5; captured, 3; and one each as hit by storm, killed by hawk, found wounded, flew against building, and caught by a cat.

In the Lake Huron and Lake Michigan areas we have banded birds on the following islands: Sulphur, Black River, Black River South Reef, Lone Tree, Charity, Little Charity, Scarecrow, Scarecrow South Reef, Scarecrow West Reef, Goose, and Green. While three of these had birds nesting on them quite consistently, the largest colony in any one year was on Lone Tree in 1932 when we banded 2300 birds. The next year the colony was ruined. Pailfuls of eggs were gathered, then dumped in piles. We assumed that the fishermen thought these birds were injurious to the fish industry, and for that reason were destroying the eggs. Immediately after I arrived home from our banding trip I reported this to the Washington office, and they in turn reported it to the U. S. Game Marshall through the State Conservation Department. Within two weeks conservation men were on the trail of these men and they apprehended three, who were heavily fined. This island never got back to what it had previously been, and in later years it grew so thick with bushes and weeds that the birds left the island almost completely by 1940.

Some of the colonies have failed in certain years due to heavy storms. If the reef or island is low heavy storms will sometimes wash completely across, ruining the nests and eggs.

We have visited some of the islands twice in the summer, but most of them we visit but once each year. This being the case, we have not been able to get back to band chicks from a second nesting. We visited only one colony in 1942 and not any since that time, due to shortage of bands to begin with, and also rationing of gasoline and tires. It is our hope that this year we can make our usual trips to the several colonies.

It is interesting to see terns dive into the water for their food and then shake the water from their feathers as they gain flight again. If a large school of minnows is found, a big flock of birds will soon gather for the feast.

My two sons, Dr. Frederick E. Ludwig and Dr. Claud A. Ludwig, and I have worked together in the bird banding activity, and have found it most interesting and worthwhile.



THE CRAFTY NATURE of the crow tribe was amply illustrated the other day when two hunters, armed with shotguns and a crow call, and accompanied by one of the farm youngsters, launched a determined offensive against the hundreds of crows which nest in the woodlots of the Wheaton farm. The day long campaign netted only six of the big black birds, despite a series of stratagems on the part of the hunters and the boy.

The hunters admittedly were not experts in the use of the crow call, a wooden device with a thin metal reed that closely resembles the conventional duck call. Repeated use of the device, however, succeeded in luring one curious crow within gunshot, and one of the hunters brought him to earth.

From then on the shooting perked up, with the dead crow playing an important role. The late robber was trussed up in a lifelike position in a grassy glade at the edge of the wood. The hunters took up their posts behind a screen of leafy young oaks and haws, and began playing coaxing tunes on the raucus crow call.

Pretty soon, an old crow, with one primary pinion missing from his left wing, began circling high above the dead bird, cawing excitedly. Around and around he soared, gradually losing altitude as he tried to make out what sort of tasty morsel his grounded brethren had stumbled upon.

Finally the old crow, which evidently had been assigned as an advance guard, decided the coast was clear, for he changed the tone of his cry a trifle and crows began to swoop in from all directions. The guns blazed, and two more crows came tumbling to the ground. The sound of the shots sent the other crows scurrying, while old Missing Pinion shot straight up into the air to resume his cawing reconnaissance.

The farm youngster was then pressed into service. He was intructed to walk boldly away from the hunters' blind, and stroll over to the other end of the wood. The theory was that the crows would think the site vacated and return. It worked. Before the lad had reached the opposite edge the sentry again changed his call, and once more the crow population began circling the glade. This time the hunters netted three of the low flying birds.

The second barrage of gunfire evidently convinced the crows that the spot was a permanently unhealthy one, for neither crow call nor non-chalant departures by the farm youngster could coax them back again, though their alarmed cawing could be heard in neighboring woodlots.—“Day by Day on the Farm,” *Chicago Daily Tribune*.



State Birds, Flowers and Trees

SEVERAL SURVEYS have been made under the auspices of various clubs and committees to collect authoritative information on the selection by the different states of appropriate birds, flowers and trees that should be considered emblematic of those states. The following list has been compiled from these surveys and includes the years, where available, when the choices were officially made by some kind of legislative enactment. If no date is given the designation is still unofficial, though generally accepted.

State	Bird	Flower	Tree
ALABAMA	Yellow-hammer (1927)	Goldenrod (1927)	None
ARIZONA	Cactus wren (1931)	Giant cactus or Saguaro (1901)	None
ARKANSAS	Mockingbird (1901)	Apple blossom (1901)	Pine (1939)
CALIFORNIA	Calif. valley quail (1931)	Golden poppy (1903)	Redwood (1937)
COLORADO	Lark bunting (1931)	Columbine (1899)	Blue spruce (1939)
CONNECTICUT	None	Mountain laurel (1907)	None
DELAWARE	Blue hen chicken (1939)	Peach blossom (1895)	Amer. holly (1939)
FLORIDA	Mockingbird (1927)	Orange blossom (1909)	None
GEORGIA	Brown thrasher (1931)	Cherokee rose (1916)	Live oak (1937)
IDAHO	Mountain bluebird (1931)	Syringa (1931)	None
ILLINOIS	Cardinal (1929)	Violet (1908)	Oak (1908)
INDIANA	Cardinal (1933)	Zinnia (1931)	Tulip (1931)
IOWA	Goldfinch (1933)	Wild rose (1897)	None
KANSAS	W. meadowlark (1937)	Wild sunflower (1903)	Cottonwood (1937)
KENTUCKY	Cardinal (1926)	Goldenrod (1926)	None
LOUISIANA	Brown pelican (1912)	Magnolia (1900)	None
MAINE	Chickadee (1927)	White pine cone and tassel (1895)	Pine (state seal, 1820)
MARYLAND	Baltimore oriole	Black-eyed susan (1918)	White oak (1941)
MASSACHUSETTS	Chickadee (1941)	Mayflower (1918)	Amer. elm (1941)
MICHIGAN	Robin (1931)	Apple blossom (1897)	None
MINNESOTA	Goldfinch	Moccasin flower (1892)	None
MISSISSIPPI	Mockingbird	Magnolia	Magnolia (1938)
MISSOURI	Bluebird (1927)	Hawthorn (1923)	None
MONTANA	W. meadowlark (1931)	Bitter-root (1893)	None
NEBRASKA	W. meadowlark (1929)	Goldenrod (1895)	None
NEVADA	Mountain bluebird	Sagebrush (1917)	None
NEW HAMPSHIRE	Purple finch	Violet (1913)	None
NEW JERSEY	Goldfinch (1935)	Yucca (1927)	None
NEW MEXICO	Roadrunner	Rose	None
NEW YORK	None	Dogwood (1941)	None
NORTH CAROLINA	None	Prairie rose (1907)	None
NORTH DAKOTA	W. meadowlark	Scarlet carnation (1904)	None
OHIO	Cardinal (1933)	Mistletoe (1893)	None
OKLAHOMA	Bobwhite	Purple lilac (1919)	Redbud (1937)
OREGON	W. meadowlark (1927)	Oregon grape (1899)	Douglas fir (1939)
PENNSYLVANIA	Ruffed grouse (1931)	Mountain laurel (1933)	Hemlock (1931)
RHODE ISLAND	Bobwhite	Violet	Maple
SOUTH CAROLINA	Mockingbird (1939)	Yellow jessamine (1924)	Palmetto (1939)
SOUTH DAKOTA	W. meadowlark	Pasque flower (1903)	Cottonwood
TENNESSEE	Mockingbird (1933)	Iris (1933)	None
TEXAS	Mockingbird (1927)	Bluebonnet (1901)	Pecan (1919)
UTAH	California gull	Sego lily (1911)	Blue spruce (1932)
VERMONT	Hermit thrush (1941)	Red clover (1894)	None
VIRGINIA	None	Dogwood (1918)	None
WASHINGTON	Willow goldfinch	Rhododendron	None
WEST VIRGINIA	None	Big laurel	None
WISCONSIN	Robin	Violet	None
WYOMING	W. meadowlark (1927)	Indian paint brush (1917)	None

It will be noticed from the dates that the interest in our native birds and plantlife has been almost entirely a product of the present century. This is without doubt a result of the work of the Audubon and other similar societies and women's clubs and their efforts as reflected by the schools of the country. Many of the selections have been the result of campaigns in the schools and the votes of the children. In some instances choices have been indicated by schools and other organizations, but have not yet been approved. In Connecticut a bill naming the robin as the state bird was rejected in 1941. Utah, while not officially recognizing the California gull as the state bird, gives it special legislative protection. The maple tree was chosen by the schools of Rhode Island as long ago as 1894, and the violet in 1897, but no official action has ever been taken.

The fact that Illinois has a state bird, a state flower, and a state tree is not too generally known. In 1907 a ballot for a state flower and state tree brought out 43,000 votes. The violet received 16,583 votes for state flower, the wild rose was second with 12,628, and the goldenrod third with 4,315. For state tree the oak led with 21,897 votes, the maple was second with 16,000, and the elm was third with 5,000. The General Assembly approved the violet and the oak in 1908.

Selection of a state bird was not made until 1929, and again it was based upon votes cast by school children. Five birds received over 15,000 votes each, and the cardinal won over the bluebird by a vote of 39,226 to 30,306. The meadowlark was third with 16,200 votes, the quail fourth with 15,800, and the oriole fifth with 15,400.



THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

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For the Protection of Wild Birds

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Exploring Nests of Golden Eagles

By CHARLES DARWIN TEST

DURING EIGHTEEN YEARS I spent as a resident of Golden, Colorado, from 1900 to 1918, while a member of the faculty of the Colorado School of Mines, much pleasure was derived from studying the birds of that locality.

Because of its situation, just at the base of the foot-hills, fifteen miles west of Denver, Golden has a varied bird population, for one finds not only the true mountain species, but also many which are really birds of the plains. The altitude of Golden is about 5,600 feet, a few hundred feet higher than Denver. On the east side of the town is an extensive, basalt-capped mountain which has been cut into two parts, called North Table Mountain and South Table Mountain, by the stream known as Clear Creek, which flows from the mountains just to the west. The Table Mountains



Castle Rock, near Golden, Colorado

have an altitude of a little over 6,000 feet, while the elevations farther west rise to 7,500 to 8,000 feet within a few miles from the town. From these mountains and those beyond issues Clear Creek, via the famous and scenic Clear Creek Canyon, the eastern end of which is only about a mile from Golden.

The Table Mountains are interesting and more or less well known because of some of the minerals found there, especially certain of the Zeolites, specimens of which are to be found in many mineral collections

in various parts of the world. On the west side of South Table Mountain, just on the edge of Golden, is a large, more or less detached mass of basalt known locally as "Castle Rock," the upper hundred feet of which is almost perpendicular. This has a special ornithological interest of its own because of a colony of white-throated swifts, which nest in the crevices, and are to be seen all summer long flying about it and never seeming to alight. That they do alight, however, and build nests in the sheltered crevices, I can testify, for one spring by patient watching for a long period, I located one particular opening to which a swift flew several times, on each occasion carrying a feather in its bill. By the aid of some of my pupils I was a few days later lowered down that side of the mass of rock, gained a precarious foothold, and so was able to peep into the depths of the cavity. There, just beyond the reach of my outstretched fingers, I could see the nest, apparently chiefly comprised of chicken feathers, such as I had seen the birds carrying, massed so that they concealed the interior of the nest, so that I can only accept the words of others that the eggs are dull-white. This species is all of an inch longer than our chimney swift, and is the only one of the four species of North American swifts to surpass the European swift in the amount of white on its chin, throat, and breast, our common chimney swift having a dark-gray throat, and no white whatever.

Of other small birds the rock wrens were very common on the lower slopes of the Table Mountains, nesting beneath pieces of the basalt which have rolled down the declivities, and lodged with spaces between them and the more solid ground.

Northward from Golden the country rises gradually for six or seven miles until another mountain stream, Ralston Creek, is reached. Beyond this creek the "Bear Tooth Mountain," a red sandstone hogback, rises abruptly to an altitude of over 7,000 feet. About halfway from Golden to Ralston Creek, a small stream, usually without water in summer, and known locally as "Dry Creek," flows out from the range to the west along a picturesque canyon, although not nearly as large as Clear Creek Canyon. By its rugged topography this region somehow seems especially adapted for the presence of eagles, and indeed a quarter of a century ago golden eagles were by no means rare in this neighborhood, with an occasional bald eagle also to be seen.

When I first went to Golden I frequently saw large birds which I offhand assumed to be buzzards or large hawks, but it was not long before I realized that they must be eagles. They soared much as did the turkey buzzards I had known as a boy, but were seen either singly or in pairs, and not in groups as buzzards so often are.

With northern Illinois as a birthplace, and the following twenty-odd years spent in southern Michigan and north-central Indiana, my acquaintance with eagles was far from extensive, and practically limited to occasional glimpses of some lone specimen of bald eagle, soaring about rather aimlessly in those regions least disturbed by agriculture, as if searching for ancestral homes. The swamp lands of the upper Kankakee River, not yet drained as now, and to a less extent the Indiana Sand Dune

section, offered attraction to the big birds longer than most other parts of northern Indiana.

Amos W. Butler, in his "Birds of Indiana," 1897, notes the nesting of bald eagles as lately as 1893, particularly at English Lake. In regard to golden eagles, he states that there is no record of that species having bred in Indiana, although it is a not infrequent winter visitor.



Sheltered nest of golden eagle, Dry Creek Canyon

Robert Ridgway, in his "Ornithology of Illinois," 1880, lists the golden eagle, quoting E. W. Nelson, as "not very uncommon in winter," and as having "formerly visited throughout the state." The bald eagle Mr. Ridgway cites as "a more or less common bird, to be met with at all times of the year." But this had reference to conditions some 65 years ago.

Frank M. Woodruff, in his "Birds of the Chicago Area," 1907, regards both the golden and bald eagles as now uncommon, the former as "a very rare winter visitant," and the latter as "a rare resident," but mentions the bald eagle as having nested near Miller's, Indiana, in 1897.

So it was with especial interest that I hailed the opportunity of

acquaintance with Colorado eagles, and I was delighted while exploring Dry Creek Canyon one autumn to discover an eagle's nest, high up on an almost inaccessible cliff on the south side of the canyon. The nest evidently was not deserted, for eagles were to be seen in the vicinity, and plans were laid for visiting the nest the next spring.

Accordingly, on Saturday, March 14, 1903, a party of five or six of us started out to see whether we could find the eagles at home. The sky was heavily clouded, and it looked like a poor day for eagle nesting, but after considerable discussion it was decided to make a try at it, hoping the weather would improve.

This time we did not go up the canyon as before, but climbed the mountains on the south side, calculating that in this way we could arrive at the top of the cliff, and thus avoid the hard climb up its face. There was some snow on the northern slopes of the hills, but the south slopes were mostly free of it. As the day was not very pleasant few birds were to be seen other than the ever-present magpies, some pink-sided juncoes, and western tree sparrows. A small flock of mountain bluebirds was



"Island" peaks, in a sea of clouds

encountered well up on the mountain side, flaunting their bright azure hues as they fluttered ahead of us. As we continued our climb we quite suddenly emerged into bright sunshine, and looked down on a sea of clouds, through which numerous little peaks protruded like islands. Inspired by this beautiful sight, our spirits rose, and we were soon at a point which we decided must be almost directly above the nest located a few months before. Our calculations proved to be correct, for as we cautiously looked

over the brink of the cliff there was the nest, only about ten feet below us, with the female eagle sitting on it. The nest was on a shelf of rock on the north face of the precipice, and the rocks above hung out over it in such a way as to protect it somewhat from rain and snow, and perhaps from the noonday sun, and yet clearly visible from our observation point.

We had brought along a stout rope in case we should find need for it in reaching the nest, and it was now decided that I, as the leader of the party, should be lowered over the cliff. Accordingly one end of the rope was anchored to some solid rocks, and the other end fastened around my chest. My companions then proceeded to lower me over the side, not without some anxiety on my part as to what the reaction of the eagle might be to this invasion of her privacy.

To my intense relief, the eagle, that in spite of all of the talking and commotion just above her had remained quietly on her nest, spread her wings directly after my legs appeared over the edge of the cliff, and sailed off while I dangled defenseless some 500 feet above the bottom of the canyon. And to my continued relief she did not return during the several minutes I spent examining the nest and securing the eggs. The nest was made of sticks and must have been four or five feet across, with the cavity for the eggs about one foot in diameter, and quite shallow. It was lined with fresh pine and spruce twigs and dead yucca leaves, and contained two fresh eggs. The nest evidently had been used for several years, for it showed plainly where additional fresh sticks had been placed at various times. It was strongly built and set so firmly on the shelf of rock that as I sat on its edge I had no sense of being in a precarious position. There was a fine view up the canyon, and evidently this wide outlook was one reason why the eagles had chosen this spot for their nesting site, with all its facilities for spotting prey. It was while taking in the view from the eyrie that I saw one of the only two bald eagles that I ever saw near Golden. This specimen of the National Bird was perched on the top of a dead pine tree on the other side of the canyon, and gave no evidence of being disturbed by our presence at the golden eagle's nest.

When I next visited this particular spot, some years later, the golden eagles were still about, but had left the nest I had invaded, and had apparently reverted to an older nest, on a practically inaccessible ledge farther down the side of the cliff.

My next visit to a golden eagle's nest was made a year later. I had frequently seen golden eagles in Clear Creek Canyon, within three or four miles of Golden, and had climbed to some old nests, one of which had apparently been used for a number of years, as it had been built up to a height of four or five feet, but from appearances had not been occupied for some years.

With the idea that there must be an occupied nest in this part of the canyon not far from Golden, I started out alone the afternoon of March 12, 1904, to make a try at finding it. It was too early in the season for spring migrants or summer residents, but on my way up the canyon I encountered the usual magpies, juncos, and western tree sparrows among

the low bushes and dwarf trees which grew in the gulches and on the hillsides. As I climbed higher where the pines grew, long-crested jays scolded me, and there were mountain chickadees and nuthatches in the trees. Some snow still lay in the gulches and on the northerly slopes, but was not enough to interfere with climbing.

After visiting one of the old nests which showed no signs of being occupied, I started back home, and then decided to investigate a high cliff which looked from below as though it might be attractive to eagles. This cliff was probably about two miles from Golden as the crow flies, but I had to cover perhaps twice that distance in getting to it. As I approached its base my hopes rose when I saw an eagle fly away, and then I saw a nest near the spot from which the eagle had flown.

As I have stated, I was alone, and had no paraphernalia for cliff-scaling, but the thrill of seeing the eagle fly, possibly from a nest, so inspired me that I decided to attempt climbing to the nest, in spite of the fact that it seemed like an almost impossible feat. Then, too, had I fallen I might never have been found in time for me to benefit from a rescue, for no one knew I was hunting eagle's nests that day! The cliff was on the south side of the canyon, and must have been not far from 1,000 feet above the creek, the perpendicular portion being perhaps 200 or 300 feet high. As I climbed, or rather as I paused to rest, there was a fine view up and down the canyon, of the bordering hills, and of the creek and railroad tracks at the bottom. From the nest the bottom seemed a long way down!

As I started up the cliff another eagle flew away, and then I saw another nest, a little lower down than that I had discovered a few minutes earlier. The idea came to me that this second eagle was the female and that the lower nest was that being used for the eggs. This assumption I was glad to find to be correct, for the climb was proving to be even more difficult than I had anticipated. However, by making use of occasional shrubs for handholds, and stopping quite frequently to get my breath, let the cramps subside in my legs, and I must admit, to bolster my courage, I finally reached the ledge for which I had started, and at once felt repaid for all my efforts when I found a comparatively new nest with two eggs. As was the case with the nest in Dry Creek Canyon, this nest was on a ledge of rock on the northeast face of the cliff, and had a similar overhang of rock to give it some protection from the weather. In construction this nest was much the same as that visited the year before, but seemed to have been more recently built. Once more I had a sense of relief that the eagles behaved as had those of Dry Creek Canyon, disappearing when I approached the nest, without making any effort to assault me, and not being seen again while I was there. A fight with two eagles on the face of so steep a cliff would probably have resulted in a victory for the defenders of their home! Their failure to make even the least effort to attack me gives me strong doubts of the many stories I have heard and read of eagles attacking persons who have climbed to their nests. On a third such occasion it might be different, but I doubt it.

There seemed to be no way to get off the ledge except by following

down the way up which I had climbed, so carefully wrapping the eggs in my handkerchief and putting them in my coat pocket, I started down. This seemed even more difficult than the ascent, but I was cheered by the thought that each foot down gave me one foot less to fall if I should miss my footing! How the feat was accomplished without breaking the eggs, and perhaps my neck, I do not know, except that I recall my clinging



Two nests of golden eagle, Clear Creek Canyon

desperately to sundry and divers rock projections and stems of shrubs as I slowly backed down the cliff. But I finally arrived safely at the foot of the perpendicular portion, from which the going was comparatively easy, and I was shortly back home. The trip had not taken more than four hours in spite of the time the ascent and descent of the highest cliff had seemed to consume.

The cliff can be plainly seen from one of the hairpin curves on the auto road which now goes up Lookout Mountain and passes near the grave of Buffalo Bill. The nest, however, is difficult to see from this point without field glasses. I have revisited the locality several times, but apparently the eagles have never returned to this particular nest, in this respect following the example of the eagles of the Dry Creek nest, although the first birds did build again fairly close to the site of the plundered nest.

So, so far as my observations with these two nests have gone, the question as to whether eagles are vicious attackers of intruders molesting their nests appears to be answered in the negative.

Incidentally, both sets of eggs are on deposit in the zoological museum of the University of Michigan. The markings on these four eggs varied considerably, one egg of the first set being almost pure white, with only the faintest of pale brownish streaks, while the companion egg was particularly attractive, bearing blotches, splashes and speckles of dark reddish brown, interspersed with gray or lilac cloudings, carrying out the reputation of golden eagles eggs as being the most attractive of all the Raptors. Of the second set, one egg ran chiefly to pale lavender spottings, and the other to pale brown markings, neither as attractive as the more colorful egg of the Dry Creek set.

In conclusion I may add that here in Southern California eagles are far from rare, and can not infrequently be seen in the mountainous sections, whence they stray occasionally into more populated districts. In fact, in June of this year (1946) the newspapers reported one, the species not given, that was electrocuted by flying into a high voltage power line between this city and Los Angeles. As I have never seen a bald eagle in this part of California, I assume that the victim was a golden eagle.

Riverside, California.



Mrs. Bonney's Nesting Owls

By CORA CLARKE McELROY

(Illustrations by MRS. CHRISTINE BONNEY)

THE TELEPHONE RANG. Then came the voice of my neighbor and fellow bird lover, Mrs. Guy Bonney:

"Say, do you know what I've found at the lake? I think it's the nest of a long-eared owl. I was going through a rather open space and there in a red haw, not fifteen feet up, was a pair of long ears above an old crow's nest. At first I thought a rabbit had gone to roost there. Then the ears moved and the disk of an owl appeared."

"If the ears stuck straight up I guess that's what it would have to be," I said. "The great horned's ears angle considerably."

Sure enough the owl was a long-eared, although there had been in Sangamon County but one previous record and that had been of one the preceding winter in Washington Park, Springfield.

This was the latter part of March. In a day or two I went with her to see the nest. We parked the car some distance away and followed a faint trail winding through scattered clumps of haws and wild crabs. One large tree, a few hundred feet away, served as a landmark for the nest, which was easily visible about fifteen feet up in the red haw. At first we saw only the pair of ears, then the end of the tail protruding beyond the nest. As the owl's curiosity increased, she raised her head and we could see in full her round face. When we circled about the tree she turned her head to watch us. We didn't want to disturb her and so had to be satisfied with this uneventful interview.



During the following weeks Mrs. Bonney made almost daily visits, sometimes late in the evening, sometimes at four o'clock in the morning. Sometimes she found the husband sitting in a nearby tree or flying softly overhead. On April 15 she first got a glimpse of the young and knew that some, at least, of the eggs were hatched.

Just before dusk on April 22 I went along for an evening's vigil. We made out the faces of three of the young, peeping from under the mother's wing. We sat down in the shelter of some nearby shrubbery from where we could dimly see the nest in the gathering dusk, to await anything that might happen. There was no moon. The sky was overcast and at times there were spits of rain. As the evening was warm I hadn't worn a coat, and I began to find my attention wandering a bit from the owls, and I wondered just what we'd do in case of a downpour. It was almost dark, we had no flash light and the car was a quarter of a mile away. It didn't seem to occur to Mrs. Bonney, though, that we should be concerned about anything except what the owls would do once it became completely night. So I relaxed and began to enjoy the soft air and the enchanting sounds

of a spring evening. The brown thrashers and the cardinals ceased singing. Far off, a field sparrow chanted its final vespers prayer. A coot splashed about in the edge of the lake. An American toad, so my companion said, called nearby. The only toads I had ever known were nameless ones in my garden, silent as a sphinx.

Finally there was a soft whirl close over our heads and the father long-eared flew to the nest. When we moved a bit he left, but soon we heard an indescribable long call not far away. An almost continuous soft clucking sound came from the same place. This we found later was made by the adults snapping their bills together.

The next day Bert Harwell came to Springfield for an Audubon lecture and the following morning he and Mrs. Booney drove to the site, where with step-ladder, mirror, and camera they attempted to get some pictures. A man is a bit more brash than a woman. For the first time the mother was frightened from the nest, and she indicated her annoyance in shrewish tones. There were five young owls, a large one sitting on the edge of the nest.



I went with Mrs. Booney but once more, May 10. We found two gray young in nearby trees, half grown, sitting stiff and erect as tenpins. Perhaps, in comparison with the amount of time Mrs. Booney devoted to the owls, the scientific data gathered was negligible. No owl was banded, none was collected to count the pinfeathers, no stomach was examined to see just what had been eaten. She and Mrs. Owl had been two well-bred ladies getting acquainted, each observing the courtesies, the amenities, and the reticences due the situation. In spite of the fact that so many other bird-watchers who had heard about the nest came either so often or in such numbers that the grass all about the haw tree was trampled flat,

Mrs. Long-ears may feel she raised her family so happily and so successfully that she will come again next year to the same vicinity to bring up another family.

About two weeks after we had said good-bye to the long-ears we were in a very different territory looking for birds. This was the vicinity of some clay pits, most of them abandoned and now small lakes, but one quite ugly and still being worked. Nearby were small narrow glens with their sluggish streams, making excellent habitats for numerous birds. Mrs. Bonney was on one side of the creek and I on the other when she flushed a large bird that flew silently across. We saw it well enough to identify it as a barn owl, although she had never seen one before and I only the ones we used to see in the dark pines on the C. O. S. trips to the Arboretum. It moved again and was lost. Then she said, "Here's a great hole in this old stub of an elm." "Pound on the tree with a stick," I called, and out came the barn owl, giving us excellent views of her, or of him it might have been, as barn owls at times both incubate, sitting side by side.

We felt sure there must be a nest in the hole, and a few evenings later Mrs. Bonney went out alone to see what would happen at night. She reported that the owls were active about the old tree and that when she moved one let out an unearthly screech. This report led to our wild night of May 29. There was to be a good moon and we planned to watch the behavior of the owls by its light. As I left home a little after six o'clock I said casually to my husband, "I'm going out with Mrs. Bonney to look at the barn owl and won't be back before dark."

We had an extra two or three hours before time to begin the owl study and decided to drive out to the marsh at the upper end of the lake. We thought we might see the gallinule or the bitterns again or maybe some rails, all of which are rarely seen here. The time we spent there and more time we spent in looking for some cool drinks made us late in reaching the clay pits. The moon was up and the gates locked, and so we had to park the car on the highway. Not liking to attempt crossing the creek in the dim light, we took, to me, the unfamiliar way along the top of the bluff.

The environment at this point was not idyllic as had been that of the long-ears. It was nearer town and frequented by all sorts of people. The open pit to our left was ugly. Voices were heard near-by. We kept out of sight among the trees and spoke little. After a few wrong turnings, we came to a place where Mrs. Bonney said, "I'm sure the tree is across from here. We'll have to go down this bank." The side of the bank was covered with old bricks and overgrown with shrubbery. But finally we were down, made our way through some barbed wire, and found ourselves in giant ragweeds, higher than our heads. The situation to me was novel and sinister. Ahead I could see what first looked like a sheet of water, but when we got to it, it was a lovely moon-filled glade. The far side of this was not far from the barn owl's tree. We sat down among some shrubbery and, as mosquitoes were vicious, applied plentiful amounts of oil of citronella and Scat. I wondered if the noses of the owls were as

keen as their eyes, and if so what they would make of the strange odors.

The air was full of fireflies; some insect went "zee, zee, zee, ze-ze-ze"; American and Fowler toads added their mellow voices. Walls of trees and shrubs shut in the moonlit glade. "It's better to live in a poem than to read or write one," I thought.

Then came the owls. One flew over our heads. Another seemed to go to the big opening in the old elm. At first there was no noise. Then we moved and immediately a demoniacal shriek rang out. I understood the old folklore associating owls with night-riding hags, witches, enchantments. But as I had never heard a demon cry, I began to think of something more realistic to which I could compare the sound. The best I could think of was the raucous attempt at a crow of a young rooster. If he used but one note and prolonged it that would be a bit like the owl's cry, I thought. But Mrs. Bonney said it was like nothing she has ever heard.

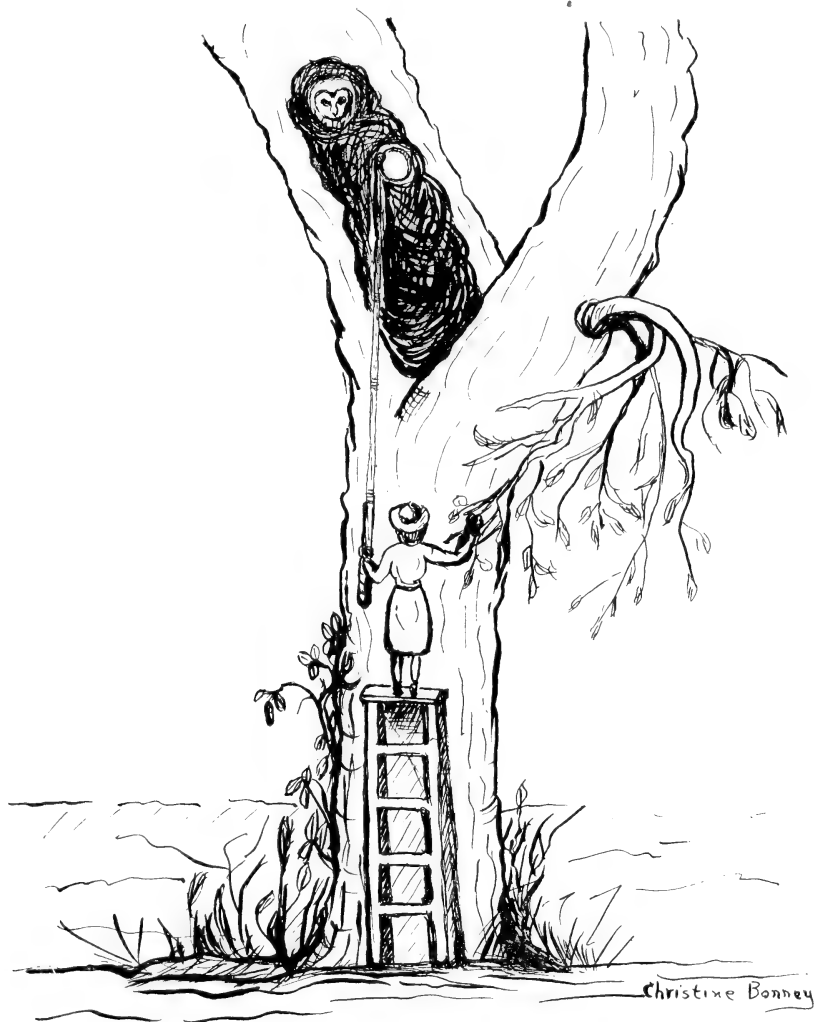
The owl stationed itself in the branches of a tree near the nest and continued the cries. I moved to a tree trunk overhanging the creek to be as near as I could get without falling into the water. The owl kept up the shrieks indefinitely at seven to fourteen second intervals.

Finally when it seemed impossible to learn more on this visit, we made our way back to the car. I looked at my watch in the moonlight and saw it was eleven o'clock. We drove home happy and excited by our night's experience. When we got to our hotel I rang our bell in the lobby and went up to our floor. My spirits were suddenly dashed to find my husband outside the door of our apartment, pajama-clad and looking very stern. "Do you know it's 11:30," he asked. "I've been calling the police." I felt remorseful, but a little pleased, too, as no one before in my many years of field work had ever shown the least concern about my safety.

One beautiful afternoon the first of July, Mrs. Bonney and I went out again to the barn owl tree. We had wished several times that we had an extension ladder so that we could look down into the nest. As that was not available she brought a step-ladder, her husband's deep-sea fishing pole, and a small mirror. The gate was open and we drove as close as we could, but even so we had to carry the ladder across a corn patch and a tangle of long grass and weeds, over the creek and through the wood to the tree. We first knocked on the trunk and, getting no answer, decided the birds might all be gone. Then we rested the ladder against the tree and I climbed up and was precariously standing on the top, holding with one hand to a small branch, and trying with the other to adjust the mirror so I could see into the big cavity, when Mrs. Bonney cried, "Oh, there they are." Two young barn owls flew out in quick succession. One appeared white and the other showed quite a few tannish bars. They disappeared in the wood across the creek. Presently two more came up and went into a round hole just above the big opening, as though they had gone up into the attic. There they stayed until we left, and often the full face of one, looking like a valentine, would fill the opening.

As even when standing on the step-ladder we were five or six feet below the cavity, and as this was so deep that the mirror reflected only

blackness, we decided we could accomplish no more. I kept wishing for a man, an extension ladder, and a flash light, but Mrs. Bonney, being more independent, said nothing. I fully expect her to call up some day saying



she has the long ladder and a flash light, but scornful of the idea that any man is needed to help.

As the delights of bird watchers and of nature lovers are never single we took some time to explore the surroundings a bit before leaving. It was the first time I had been on this side of the creek. Birds, even in the middle of the afternoon, were singing lustily, and shrubbery was full

of the twitterings of the young. A Bell's vireo was singing and when we got too near his nest he set up a great spluttering. There were songs of Carolina wrens, catbirds, cardinals, grosbeaks, titmice. "Look at that yellow-throat feeding that great cowbird," said Mrs. Bonney. Our notions of ethics disgusted us with both—the laziness of the hulking cowbird and the stupidity of the yellow-throat, feeding, no doubt, the murderer of her own children. But Nature knows no ethics, and each was only following the compulsion of its own instinct, and should neither be blamed nor admired.

We feel we know a great deal more about two relatively rare birds than we knew at the first of the year. The knowledge that can be attained only by "collecting" them we can get from books. And there remain to us in addition to the facts we have learned all the attendant delights of the numerous trips to visit them in their homes.



Wood Ducks Nest in Quincy

THE DEGREE TO WHICH some wild creatures become accustomed to close association with man has been again demonstrated in some news reports written by Don Kesler for the Quincy, Ill., *Herald-Whig*. The nesting of wood ducks within corporate limits is not an entirely new experience, but the number of cases reported is, we think, quite unusual for one city. Incidentally, the reports go far in showing the local faith in the knowledge and understanding of wildlife problems of our friend and valued member of the Board of Directors of our Society, Dr. T. E. Musselman.

The first account appeared in the *Herald-Whig* of June 16, 1946, and was as follows:

"Two tragedies of nature, and what is feared may be a third, were reported by T. E. Musselman, Quincy ornithologist. They involved a nice mixture of wood ducks, marsh hawks, foxes and men.

"The first tragedy was the reported death of the tiny wood duck foundling rescued from a dog at Point Pleasant last Sunday, and turned over to Mr. Musselman last Tuesday for rearing. The little fellow had been too long without his essential infant food—insects—and failed to survive.

"The second was a more wholesale affair, involving a whole nest of young marsh hawks, a thoughtful and wise farmer, and 'T. E.' The wise farmer entered the picture when he discovered in his hayfield a marsh hawk's nest. The farmer, Dan McFarland, of near Fowler, was mowing hay when the mother hawk was flushed from her nest in the deep grass and McFarland found the nest. Knowing that marsh hawks are valuable because they destroy rodents, he mowed around the nest area, leaving a comfortable margin of tall growth. Then he reported the nest to Mr. Musselman, knowing the ornithologist would like to band the young hawks.

"Marsh hawks, Mr. Musselman explains, begin to incubate their eggs

as soon as the first is laid, and continue to lay more eggs at the rate of about one a week. As a result, the brood hatches out at intervals, and the same nest may have several young hawks of different sizes in it, besides eggs. When McFarland reported the nest in his hayfield it held six gape-mouthed young hawks and one egg. Mr. Musselman arranged to visit the nest Friday afternoon to band the young hawks. When he and Mr. McFarland reached the nest they found the seventh egg had hatched, too, but that sudden death had struck the little family, death in the form of a prowling fox. The story was all there to be read by the nature-wise, but the seven little hawks were gone—probably down the gullets of a litter of young foxes. The vicinity is overrun by foxes. The young marsh hawks must have provided a novel feast for the fox family, however, for ordinarily marsh hawks nest in the grasses of swampy marsh areas, rather than in such territory as that around Fowler.

"The third tragedy occurred Saturday morning, and disclosed the quite amazing fact that a wood duck, following the increasingly urban habit of that wary tribe, evidently had hatched out a brood of young wood ducks in Madison Park, at Twenty-fourth and Maine, a good two miles from the river, with a mile of residential area and a mile of business area on the route through which she would have had to guide her brood to water.

"The discovery came when a neighbor of Mr. Musselman's, Mrs. George H. Wilson, 120 South Twenty-fourth, called his home and asked his daughter, Ginger, if Mr. Musselman had some little wood ducks that might have gotten out. 'They're paddling around in the gutter across the street,' the informant said. But before Ginger could investigate, an automobile stopped, two men caught the tiny ducklings—three or four of them—and departed with them.

"'I'm convinced,' said Mr. Musselman, 'that they were little wood ducks, probably hatched out right there in Madison Park. The neighbor who called had seen the little fellow I had this week and said those in the rain puddle in the street were exactly like it.' Mr. Musselman voiced fear that the men who picked up the tiny ducklings would not be able to rear them as it is difficult and a very tricky business to rear such young wildlings.

"The chance of the mother duck's ever having convoyed her brood safely to the river through two miles of city streets, however, was about as remote as snow in July, Mr. Musselman agreed. Several years ago in Beardstown, he said, a wood duck hatched out her brood 10 blocks from the Illinois River and started to convoy them through four blocks of residence area and six blocks of business area. 'They didn't even reach the business area,' said Mr. Musselman sadly. 'The kids and dogs had a field day, and when the 'fun' was over not a single little wood duck survived.'"

That the above report attracted attention is quite evident as can be seen from the following report which appeared in the *Herald-Whig* of July 4, 1946.

"Wood ducks broke into the news in Quincy for the third time this summer, Wednesday, with the capturing of seven tiny wood duck ducklings at Twentieth and Hampshire Tuesday evening, and an eighth in the 1600 block of Payson Avenue Wednesday morning. T. E. Musselman, Quincy ornithologist, has taken charge of the eight little ducklings and will try to rear them.

"The seven caught Tuesday evening,' said Mr. Musselman, 'evidently were of a brood hatched in some tree hollow in the neighborhood. The one caught on Payson Avenue, he said, evidently is from another brood as the location is more than a mile distant from where the first were caught. It discloses that wood ducks are nesting in Quincy in larger numbers than we realize.'

"A brood was believed to have hatched out in Madison Park, or the general vicinity of Twenty-fourth and Maine, recently, which with the two indicated broods disclosed Tuesday evening and Wednesday morning indicates at least three nests of wood ducks in the eastern part of Quincy. In years past wood ducks have been known to nest in Woodland cemetery and in South Park, but both of these are much closer to water.

"Mr. Musselman said he was informed Tuesday noon by G. Arthur Keller, 2006 Hampshire, that a mother wood duck and her brood had been reported in the neighborhood of Twentieth and Hampshire. Tuesday evening he was called and discovered that children of the neighborhood, with a hunting dog on a leash, had trailed the wood duck ducklings and had herded seven of them into the garage of Charles J. McCaughey at 1881 Hampshire, where they had caught them.

"Mr. Musselman took a square wire trap to the garage and placed the frightened, shrill-voiced youngsters in it. Then a trap was rigged through which the garage door could be closed by pulling a rope, in the correct belief that mama duck, hearing her piping youngsters, would try to get to them. 'We planned, if we caught the mother,' explained Mr. Musselman, 'to take her and the young ones up the bay or somewhere in the north bottoms and release them in a safe place.'

"Meantime, while awaiting a chance to trap the mother, another phone call from Charles Bennett, 2210 Vermont, brought the information that three ducklings, solemnly marching in single file, had crossed his back yard. A search for these tiny strays was launched, but proved unsuccessful.

"The mother duck, as anticipated, tried to get to her young ones in the McCaughey garage, but she eluded capture on the first effort, and on the second try, Wednesday morning, the rope broke just as it appeared that the effort would succeed.

"Mr. Musselman said Wednesday noon that he apparently had eight young wood duck ducklings on his hands, and with them a headache in the problem of trying to rear them as they will require an insect diet for some time. He voiced the hope that he could locate, somewhere, a broody bantam hen that might adopt the youngsters and help rear them. Even better, he said, would be a duck that had just come off her nest with a brood during the last day or so, or a broody duck without young."

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

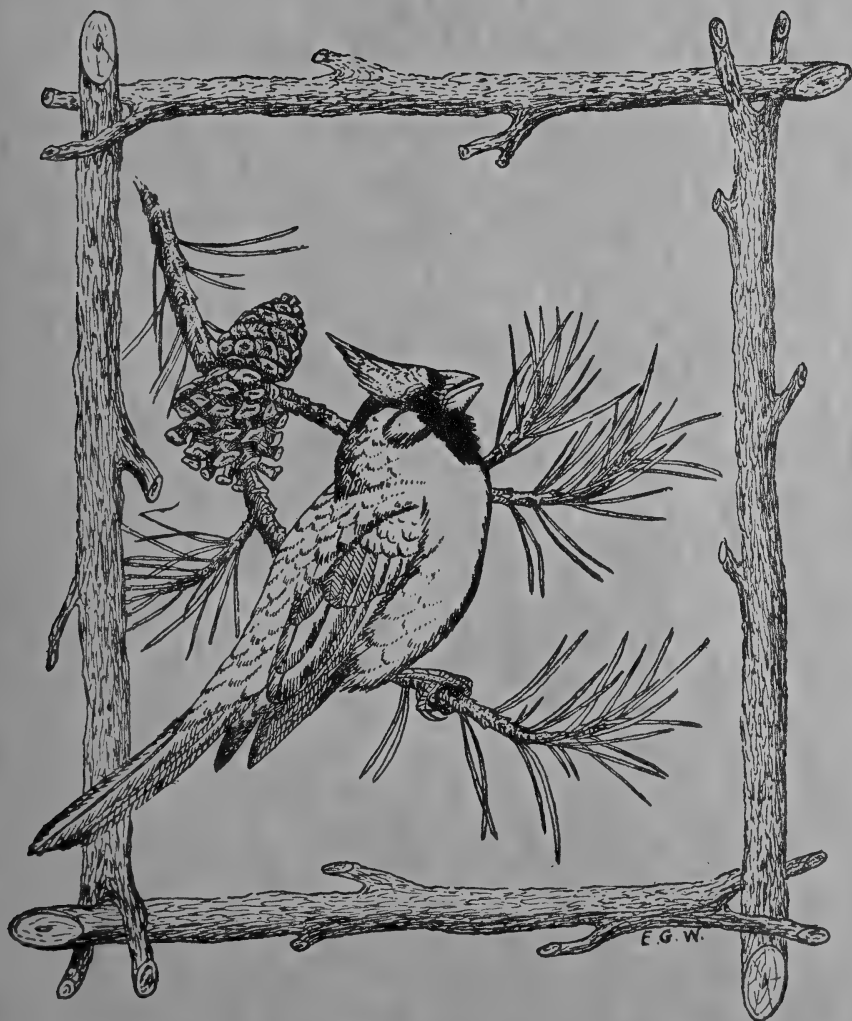
The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

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THE AUDUBON BULLETIN



THE
ILLINOIS AUDUBON SOCIETY
(ORGANIZED IN 1897)

For the Protection of Wild Birds

Affiliated with

The Chicago Academy of Sciences

2001 NORTH CLARK STREET

CHICAGO

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The Foundation Stones of Conservation

By CLIFFORD C. PRESNALL*

MUCH HAS BEEN WRITTEN about conservation since the word was popularized by Gifford Pinchot and Theodore Roosevelt over a third of a century ago, and many people are now ardent supporters of the movement to conserve natural resources. The Audubon Society is but one of a dozen or more organizations that are actively supporting the movement. Through their efforts the conservation of renewable resources has been raised to a higher level than in any other country, yet achievements are far below what might have been expected from such great public interest. There are several causes for this anomalous situation but one reason and its remedy have a particular significance to Audubon Society members.

This reason is that in the past there has been much preoccupation with the pretty trimmings of conservation — the flowers, trees, birds and other objects of subconscious pantheistic esteem; the remedy lies in universal recognition of the facts that all life depends upon environment and that the pretty trimmings pleasant to our senses and necessary to our existence will flourish only in proportion to the intelligence applied to environmental manipulation. As the gardener must give initial attention to fertilizers and tillage, so also must conservation societies spearhead their programs with campaigns for wise management of soil, forage, and cover, and abatement of pollution of water and air. Resolutions urging adoption of a State flower or a State bird can accomplish little without an accompaniment of vigorous resistance against the so-called "inroads of civilization" harmful to the environments of the selected species.

Soil, water, air, and light are the foundation stones of the conservation structure, and living things form the superstructure; they are the end products of nature. Man is one of those end products, the only one gifted with ability to influence all life, including himself, through his manipulation of the foundation stones. His scientific discoveries provide implements for profoundly modifying soil, water, and air, and it is not unreasonable to believe future discoveries may permit large scale manipulations of solar light and heat.

Progress in sciences and arts has far outstripped development of a public sense of responsibility for the wise use of civilization's tools. Engineers predicate huge dams and impoundments upon an array of statistics concerning second-feet, kilowatt-hours, transpiration rates, seismology, and

*Assistant Chief of the Division of Predator and Rodent Control, Fish and Wildlife Service, U. S. Department of the Interior.

what have you; but they adroitly sidestep the responsibility of estimating environmental influences. Will Bonneville Dam eventually destroy a salmon run worth ten million dollars? Can the smelter-blasted and eroded environs of Ducktown be restored? The engineers never knew; they were too busy learning and applying new techniques and building bigger monuments to "civilization." Conservation organizations are barely beginning to learn the answers, because in the past they too often were preoccupied with the trimmings of conservation, rather than the foundation stones of environment.

It is only within the past decade that serious and concerted efforts have been made to put "resource engineering" on the same factual basis as other applied sciences. Several agencies, notably the Fish and Wildlife Service, the Forest Service, and the Soil Conservation Service, are now giving great emphasis to the scientific management of renewable resources, and practically all of the important conservation societies are swinging their attentions and influences in a similar direction. The Audubon Society is becoming a leader in this respect, but much remains to be done by the members in informing themselves on the importance of the foundation stones of conservation, so they in turn may lead constructive discussions among their friends and neighbors.

Past mistakes in resource management show the necessity of an awakened public sense of responsibility in present and future development projects affecting environment. In Florida, the Audubon Society, the Fish and Wildlife Service, and the National Park Service have made great efforts to counteract the far reaching damage caused by drainage of the Everglades between 1900 and 1922. This was one of the most senseless of the many ill-considered drainage projects that characterized an era of ill-advised tinkering and meddling with natural resources throughout the country. Improvement of inland navigation and reclamation of farm land were the excuses for the project. The results have been: progressive ruination of 95% of the Everglades (between 4% and 5% is now farmed); decreasing water levels, and increasing salinity in the wells supplying Miami and other towns; decreased production of birds and other wildlife, the only crop for which most of the Everglades is suited; numerous fires which removed much peat land down to bare rock; and untold damage to the tropical beauty and charm of the Everglades. To this dismal score, add many relatively minor damages, such as threatened extinction of the graceful Everglades kite, which depends upon snails for food. Snails depend upon water, and water depends upon sane management of resources. That, in the final analysis, depends upon informed citizens who do not hesitate to tell Congressional delegates no tinkering with environment will be tolerated.

Examples of damage to environment caused by foolish or selfish "development" projects can be found in practically every community. They may not have produced such large sore spots as in the Everglades, but the total loss caused to the Nation is incalculable. We are unaware of much of the damage until after it has happened. A farmer cultivating his row crops up and down hill sees a little soil washed to the lower edge of the field

after each heavy rain, but often does not realize that he should stop erosion by contour farming, until years of soil loss force him to cease raising corn on the higher land. Even the spectacular and sudden losses of soil caused by strip mining and placer mining were matters of little public concern until recent years.

Nowadays laws are being enacted to halt needless waste of natural wealth, but again the final responsibility rests on each individual. By way of illustration, consider a very small development project close to home. Let us say a small piece of suburban property is being subdivided and built up with residences. Pavements are laid, low spots are drained, and trees on sites selected for buildings are cut down. Modification of environment has begun, but it is a necessary change, and indeed highly desirable in these days of housing shortages. Next come the excavations for houses. To save time and money, the contractor makes one pile of dirt from each excavation, without separating the top soil from the deeper clays and gravels. When the houses are completed the clay or gravel is scattered over the original soil surface and rolls of sod grown on fertile bottom land nearby are spread over the clay to form a pleasingly landscaped property. The realtor is not at all concerned over the fact that purchasers of homes will need to apply liberal amounts of fertilizer to the thin layer of sod, and the purchaser himself seldom gives it a thought.

A trivial incident, indeed, but not so trivial when considered as an individual symptom of a national indifference to soil, which is one of the most important foundation stones of the conservation structure. The phrase "As cheap as dirt" no longer has the significance it did in pioneer days, and another old saw, "as clear as a brook," means little to millions of people who never see a clear stream except in the movies. "As free as air" has an ironical twist to the businessman who must install an expensive air-conditioning system to keep the soot and fumes of city polluted atmosphere from damaging his delicate manufacturing processes.

America has indeed come a long way since pioneer times, but too much of the way has been downhill toward bankruptcy of resources.

The present reaction against tinkering with nature has caused some groups and individuals to swing far in the opposite direction, and advocate a complete hands-off policy. "Let Nature alone," they say, "and she will restore the balance of nature and heal her own wounds." Utopia is wonderful, but would be possible only if the human population were reduced to pre-Columbian levels of culture and density. This is not possible even on National Park areas, although they come about as near to it as can be without complete exclusion of people. Even the huge game reserves in Canada, such as the Thelon Game Sanctuary northwest of Hudson's Bay, are subject to limited modifications of environment by civilized man.

Primitive peoples modified nature, but did it so slowly and slightly that natural healing processes were able to keep abreast of man's influence; civilized man, on the contrary, has developed ways of modifying nature so speedily that she cannot keep up — she needs our help in the form of wise management of resources. The National Parks are splendid examples

of such management directed solely toward esthetic and recreational ends, for even there Nature needs much help to counteract man's actions.

Mention has been made of the necessity for guarding against the inroads of civilization. The statement does not imply an impracticable locking up of natural resources, but an intelligent application of civilization's tools so as to improve rather than harm environmental conditions. Such is the responsibility of conservation organizations today: to learn how to work with nature instead of against her, and to foster such action by both government and industry. Such a policy may slightly reduce profits to this generation but it is the only way to insure them to future generations.

Americans have been too prone to measure progress in terms of high skyscrapers, deep mines and oil wells, efficient sawmills, or mammoth dams. These accomplishments may turn out to be ironic monuments to national bankruptcy unless they are done with considerably more wisdom and foresight than in the past. True progress is measured by the amount of unimpaired productive capacity handed down from each generation to the next. Disregard of this principle was the chief factor contributing to the fall of the once powerful empires of Asia and North Africa. Their rulers and citizens ruined the foundation stones of environment in an effort to amass temporary wealth and power.

Similar damage in this country will not occur if conservation organizations throw their influence whole-heartedly into the practical hard-headed necessities of natural resource engineering. Such action is also the best insurance for continued enjoyment of the purely esthetic aspects of nature. Both the pleasures and necessities of life depend, in the final analysis, upon sound scientific management of the foundation stones of resource conservation — soil, water, air, and light.



To a Crow

*Bold, amiable, ebon outlaw, grave and wise!
 For many a good green year hast thou withstood—
 By dangerous, planted field and haunted wood—
 All the devices of thine enemies,
 Gleaning thy grudged bread with watchful eyes
 And self-relying soul. Come ill or good,
 Blithe days, thou see'st, thou feathered Robin Hood!
 Thou mak'st a jest of farm-land boundaries.
 Take all thou may'st, and never count it crime
 To rob the greatest robber of the earth;
 Weak-visioned, dull, self-lauding man, whose worth
 Is in his own esteem. Bide thou thy time;
 Thou knowest far more of Nature's lore than he,
 And her wise lap shall still provide for thee.*

—ROBERT BURNS WILSON

Kirtland's Warbler and Northern Michigan

By AMY G. BALDWIN

THE WISH TO ADD Kirtland's warbler to my life-list of birds was realized during the Decoration day holiday when Mrs. George Burch and I made the trip to Higgins Lake, near Grayling, Mich., with the members of the Michigan Audubon Society.

We took the Indian Trails bus from Chicago to Battle Creek and enjoyed every mile of the way. Lupine was still very lovely, mixed with puccoon, and we saw much of it even beyond Battle Creek. Maples and oaks seemed to make up the largest number of the trees we saw as far as Kalamazoo, although part of the way we went through large orchards and vineyards. Then there seemed to be quite a stretch of country without many trees, but fields of grain and crops of different kinds. How good it seemed when we began to see pines and birches, for then we knew we were nearing our destination where we were to spend four days in the out-of-doors of a north country wilderness. It truly was a place of peace, where all worry was left behind and the days not long enough to do all one would like. Sleep was sweet, smoke-free, and very restful.

Leaving Chicago on Tuesday morning, we arrived at Battle Creek about four o'clock in the afternoon. This allowed us to spend the night there with friends and do a little sight-seeing in the morning before joining Mr. Brigham and his group at 2:00 P.M. to start the journey north. The group at Higgins Lake was made up of members from different parts of the state and numbered a little over two hundred when the final count was completed at the end of the meeting.

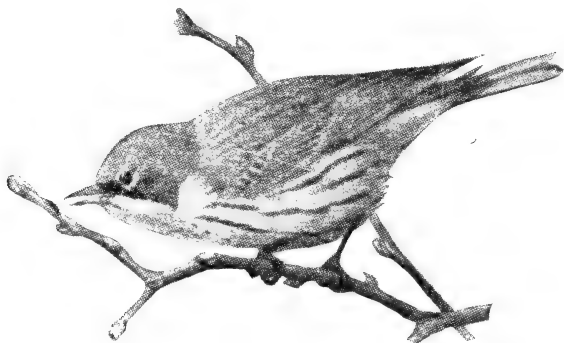
Our party arrived before dark and those who were camping out set up their camps. For the four days of the outing the rest of us were the guests of Mr. Martin, director of the Conservation Training School, so the facilities of the dormitories, dining room and lounge were ours and everything was made pleasant for us. The dormitories were equipped with two-decker beds, showers, and everything to make us very comfortable; one cold, rainy day we even had steam heat. A short walk took us to the dining room and lounge, which were connected by the office in the middle. The dining room furniture was made by the Indians.

As we arrived a little earlier than the others we spent the first morning getting acquainted and exploring the grounds near at hand. Higgins Lake is lovely, with wooded shores; a loon was reported. The flowers were very interesting. Several kinds of orchids were found: striped coral, green-fringed and ram's horn orchids, rose pogonia, wild lily of the valley, and many others. The stemless lady slipper was fairly common. A rather large patch of dwarf sweet william was growing at the edge of some woods not far from the highway. It seemed to be unusual in that region and was not seen anywhere else.

A beaver dam was visited by part of the group, while the rest of us found a young fawn and were able to hold and pet it. It was two or three days old and called *ma-a* several times, much to our delight. Then it was

released to run away as "fast" as it could go. It was quite wabby on its slender little legs, so it would run a short distance, drop down to rest a minute or two, and then on again. At rest it was so well camouflaged that we could hardly see it until it got up to run again.

Most of our trips took us to Grayling or Lovells, and then to points of interest from there. At one large marsh we saw a great blue heron rookery; also an osprey flying over the lake looking for fish. Here I saw the small sheath violet, white, dainty and sweet smelling. A little farther on we came to a dam where we watched tree, bank, barn and rough-winged swallows repeatedly flying into the spray from the falls.



FROM COUES' KEY TO NORTH AMERICAN BIRDS

Kirtland's Warbler

Friday morning at three o'clock was cloudy and raw, so only a few made the trip to the drumming ground of the prairie chicken and sharp-tailed grouse. Two prairie chickens and one sharp-tailed grouse were very quiet, sitting close to the ground. There seemed to be no activity, due probably to the weather. After we had watched them for a while, Spot, a young hunting dog, was let out of the car. He could not seem to pick up the scent of the birds, but when they flew he was all action and it was interesting to watch him as he traveled over the territory trying to find more. During that morning we also saw 25 deer.

We next went to the nesting grounds of the clay-colored sparrows, prairie warblers, Nashvilles, and others I didn't have the time to find. The Nashville warbler was carrying nesting material. The clay-colored sparrow nests on the ground where the sweet fern shrub grows. The one I saw was against a small hummock of earth, under grass and other vegetation, and it was so well hidden one would have to know how to look for it unless the bird was seen to leave. There were four lovely blue eggs. I had never seen the brown thrasher nest on the ground before, but we found several nests at the foot of small shrubs or trees. While we were looking at all these birds and their nests, a kingbird included, a good sized deer ran past us and disappeared on the other side into some woods. The clay-colored sparrows were on a strip of flat terrain next to the highway,

and the prairie warblers were on a high ridge adjoining. We were unable to stay long enough to find nests of all of the warblers, either completed or under construction. The birds were singing and I could have spent hours here, it was such an interesting place, but there were others just as wonderful, so we went on.

The stands of jack pine in Oscoda, Crawford and Roscommon Counties, in Michigan, are the nesting habitat of Kirtland's warbler; it winters in the Bahamas. It was not long until we heard one, and he was located and surrounded so we could get a good study of him. He has a loud song on the order of the Connecticut, Kentucky or Canada. He was singing in the top of a jack pine, but finally came down to the bottom of the tree where there were some dead branches. He just "took us all in," did not seem to be a bit afraid, and we could look at him as much as we wished. Then he began hopping up from branch to branch until he got to the top and sang some more. We might have been near the nest, though we did not find it. He did this twice while we were standing there — so my long wished for record was accomplished.

Someone chanced to find a pair of spruce grouse, something we had not looked for and that surprised even the leaders. A group of the members with cameras hurried to the spot and many pictures were taken of the male; the female was just over our heads about 15 or 20 feet up in a tree and stayed there. Those with cameras made a circle around the male, and he did his courtship dance time and time again. Once in a while he flew up to a low branch, then down again to perform for his lady up in the tree. After many pictures were taken the larger group was brought over and all were able to see the birds. The dance went on as though the most unusual audience he had ever had wasn't there. It consisted of flapping his wings close to his side, then springing two or three feet into the air and straight down again. I wondered whether he became so excited that he kept on, not knowing what else to do. But all good things finally come to an end, and so did the nuptial dance of the spruce grouse.

After all this the luncheon crates were opened as, today, we were to eat out under the trees. What a hungry crowd it was, too; there was very little returned to the camp that day.

A trip to a real bog was made in the hope that we could see Lincoln's sparrow and its nest. Due to lack of rain the bog was not too wet, and we were able to go into it. We saw the trails made by deer and saw much reindeer moss growing; Labrador tea and laurel were also in bloom, but I did not find any pitcher plants as I had hoped. There were many birds around, but too high in the trees to identify. It was decided that three nests which were found belonged to song sparrows.

All the good things were not seen away from camp, for, after all, the camp was in wilderness country, and some of those driving had a hard time finding their way into the grounds. There were numbers of birds nesting close by. We saw the least flycatcher building her nest just outside the office door; in the parking lot a tree swallow had found a hole in the

side of a small tree. I still wonder how that bird found that nesting site. Redstarts were building nests, and robins and the white-breasted nuthatch were already established on the grounds; a scarlet tanager was building its nest in the nursery grounds; red-eyed vireos were everywhere. It was decided that a nest discovered just before we left was being built by a myrtle warbler; if so it would be a record nesting. There were numbers of other warblers, such as Blackburnians, ovenbirds, pine and mourning warblers, and northern yellow-throats, but they were nesting in the woods away from the camp grounds. The combined list of birds seen at the end of the four days was 105; my list was 65.

One morning I heard what I thought was either a red-bellied or a pileated woodpecker, but when I mentioned it they told me that the red-bellied didn't come that far north; so it possibly was the pileated. Not being able to see it, it remains just another "it-might-have-been." The pileated was seen over in the Hartwell pines, and it was not an impossibility for one to have strayed over to our camp. Unfortunately pileated woodpeckers are not protected, and hunters don't seem to enjoy seeing living birds. They told me that 800 snowy owls were killed in the State of Michigan during the last winter and spring. It seems dreadful that such things should be.

About eight of us saw the nuptial performance of the purple finch. There was a pair, and a little later another male flew in. The first male continued to strut back and forth on the bare branch of a small tree, with wings fluttering and the feathers on his head raised almost to form a crest. The second male did not perform, and the strutting male did not attempt to drive the intruder away. Two ornithologists, Mr. Empey and Mr. Peterson, said they had just witnessed something which they had never seen before.

Meals were always served on time, so it did not pay to be late. It was a very good thing for us to have something to draw us back before it became so dark that some of us might lose our way. The evenings were spent seeing moving pictures of the camp and listening to talks by Mr. Brigham and Mr. Martin. The last evening included an auction of nylon stockings, a fine pair of binoculars, and a light gauge for a camera. The bids on the nylons were a quarter, time was set, and the last person to put up a quarter got the stockings. It was a lot of fun, and a considerable amount was taken in to go toward a fund for an Audubon camp.

Trips have been taken where things did not all turn out so well (we had no fleas, chiggers, mosquitoes or woodticks), but this trip was all I asked for and more. Our journey was complete with the making of many new friends, each one helping the other to see the interesting things, and taking those in their cars who came without. It was an unusual sight to see so many cars together in a wilderness country. I hope it may be possible for me to join that happy group again next year.

White Pelican at Orland

THERE WAS A DECIDED flurry of excitement among the bird watchers of Chicago when a white pelican was seen at McGinnis Slough in the Orland Park Forest Preserve. October 4 Mrs. Amy Baldwin, Mrs. Frank Lindsey and Mr. and Mrs. C. O. Decker paid a casual visit to the west end of the lake and there saw a large white bird that at first glance was called an egret, but one look through the binoculars showed it to be a white pelican, the first to be recorded in the area since 1921. Word of the find was quickly passed around to other amateur ornithologists and on the following day the bird was observed by quite a number of persons.



COURTESY CHICAGO ACADEMY OF SCIENCES

White Pelicans

The white pelican is definitely a rare visitor to the Chicago area as but three records are noted in "*Birds of the Chicago Region*," which says "One was taken in Chicago, April, 1903, and another in Lake Co., Ill., in the spring of 1906. A dead bird was picked up on the beach in Porter Co., Ind., Oct. 23, 1921." Forbush in "*Birds of Massachusetts*" states that there is no record of the bird ever having bred east of the Mississippi, and gives but three records for his state, the most recent being May 13, 1905.

The species is quite common on the west coast and inland to Salt Lake and Yellowstone, and a colony nests in the Souris River region in North Dakota. They move to their breeding grounds in March, April and May, and start southward to their winter homes in September, October and November. It was doubtless during the latter migration that this rare straggler found its way to Orland.



AN AERIAL CIRCUS is one of nature's big shows at the farm about this time of the year, for the nighthawks, among the world's most graceful and tricky feathered flyers, now are on their annual fall migration. These wonderful birds always put on one of the most interesting shows in late afternoon and evening as they pass over the farm. During the last week hundreds have been seen by the farm residents.

When we were on the farm a few days ago, we watched the nighthawks for about a half hour before sundown. They were coming from the east and working west, some of the birds flying quite low as they caught insects for their supper.

The nighthawk wanders in its migration from the islands of the Arctic ocean to southern South America. It is able to feed at most any hour of the day because it can see and catch flying insects in the brightest daylight.

One of the remarkable things about this useful insect eater is that it also has the ability to obtain a meal of insects on the wing even on clear nights. Its mouth, like that of the whip-poor-will, opens far back under its ears, so it forms a trap to engulf insects; its tireless wings enable it to overtake them with the utmost ease.

While watching the flight, we were struck by the skill of each bird in using its wings. It doesn't have a rapid wing beat, but its spread (21 to almost 24 inches) gives it the power to sideslip to catch an insect, or make an upward zoom so quickly that few flying bugs can escape it.

Late August marks the start of the southward migration of the nighthawks, and it continues through September. Most of our small land birds, like the thrushes and the sparrows, do not have the courage to travel by day. They prefer to migrate under cover of darkness, then feed and rest in the daylight hours. But the nighthawks boldly migrate by daylight, and always travel in loose flocks, in contrast with wild geese, which seem to have fixed regulations on close order flying.

Many bird fans often are puzzled when they see nighthawks on the wing because not all the flocks are going south. Such was the case the other night, when the birds we watched were going west. This happens quite frequently during migrations, but as a rule these off-the-route movements are short. Eventually, the birds swing back to their South American course, covering a few miles each day toward their winter home.—“Day by Day on the Farm,” *Chicago Daily Tribune*.

Birds of Iowa in 1843 and Now*

IT WAS IN 1843 that John James Audubon explored the western border of Iowa while on an expedition up the Missouri River to secure material for his "Quadrupeds of North America." His daily account of the journey has proved of great historical value as to early-day navigation, hunting, wildlife, and Indians. Of particular interest is his record of birds found in the Iowa country, since it reveals that many present species were here a century ago while others have become extinct.



COURTESY CHICAGO ACADEMY OF SCIENCES

American Goldfinch—State Bird of Iowa

The eastern goldfinch, now the ornithological symbol of Iowa, was not listed in Audubon's record of Iowa, though he saw it in the northwestern corner of Missouri. This bird was unanimously adopted as the state bird by the legislature of 1933 at the request of the Iowa Ornithologists' Union. The goldfinch is one of the most light-hearted of Iowa's permanent residents.

Audubon recorded the names of 52 birds sighted in the territory along the Missouri River now included in the state of Iowa.

At present, it has been reliably reported that Iowa is the habitat of 289 species of birds. In addition there are 56 rare or accidental visitors. Nineteen species have been added to the Iowa list recently, since they have been reported frequently in recent years. Six species have been

*Selected from an article by Faye Brice MacMartin in the July Palimpsest of the State Historical Society of Iowa.

dropped from the Iowa list as now extinct here. One hundred and thirty-five species of birds breed in Iowa according to reliable nesting records of the last 20 years.

On Audubon's return trip down the Missouri he reached the mouth of the Big Sioux River on Oct. 1 and reported "Geese very abundant," but the party stopped to shoot turkeys on the future site of Sioux City. None of the night-flying, wierd-honking geese nest in Iowa. The more numerous of these birds of passage today are the blue geese, followed by the lesser snow geese, Canada, and white-fronted geese.

Audubon listed "plenty of sandhill cranes" as well as "two swans, several pelicans, and abundance of geese and ducks" near the mouth of the Little Sioux on Oct. 3. None of the trumpeter swans and only occasionally the whistling swans now rest in Iowa on their migratory flights. The sandhill cranes still migrate through Iowa but they are rare. Since most of the marshes have been drained, native water birds have tended to disappear, but the nests of American coots can still be found. The king and Virginia rails and the gallinules pass through Iowa, occasionally nesting here.

None of the common species of shore birds was mentioned by Audubon along the Iowa border, but he saw yellowshanks, tell-tale godwits, and solitary snipes in northwest Missouri. Only three commonly nest in Iowa — spotted sandpiper, the killdeer and the upland plover. The common migrating species include the lesser yellow-legs, semipalmated, solitary, pectoral, and least sandpipers.

Less numerous, but perhaps more distinctive, are the black-bellied, golden, and semipalmated plovers, Wilson's snipe, American woodcock, and Wilson's phalarope. Fewer still, but therefore more exciting to find, are the greater yellow-legs, stilt sandpiper, Hudsonian and marbled godwits, sanderling and dowitcher. Perhaps a few of these 20 shore birds might have been included in Audubon's notation on May 8 — "we saw many small birds, but nothing new or very rare."

Audubon mentioned seeing turkey buzzards, a fish hawk, and a swallow-tailed hawk here a century ago. Turkey vultures are occasionally found during the summer, and a few scattered bald eagles. Prairie falcons occur, but are rare.

Among the beneficial hawks nesting in Iowa are the red-tailed, marsh, sparrow, Cooper's, broad-winged, red-shouldered and Swainson's hawks, while the very rare duck and pigeon hawks are not increasing in numbers. The "swallow-tailed hawk" or kite listed by Audubon, sometimes called the "snake hawk," has in recent years almost entirely disappeared from the state. The "fish hawk," now called osprey, is an uncommon migrant and only a rare summer resident along Iowa's larger streams.

Iowa is favored with many roadside carolers nesting in nearby fields, meadows and bushes, greeting the passerby with their songs. First is heard the prairie horned lark's bubbling warble on soaring wings, followed by the "spring-o'-the-year" song of the eastern meadowlark, which is

thinner and less musical than the western meadowlark's wild, clear whistle — both heard in Iowa.

A few bobolinks are heard singing about "Robert of Lincoln," while our state bird is one of the happiest of roadside singers. Then arrive the brown thrashers, the first among the mockers, and two birds mentioned by Audubon — the brown-capped chipping sparrows singing in their rapid monotone, and the pink-billed field sparrows with their plaintive song.

Inspired by these songs the eastern kingbirds and the encroaching Arkansas kingbirds add their piping notes, while the bronzed grackles and the cowbirds (the latter mentioned by Audubon) do likewise. The innumerable dickcissels and the indigo bunting give a continuous performance from the telegraph wires. Migrant shrikes serve as highway patrolmen of the air in summer and the northwestern shrikes take charge during the winter months.

The Iowa Ornithologists' Union members have identified from 40 to 75 permanent resident birds on their Christmas bird census hikes. Nearly always included in these lists are the red-tailed, sharp-shinned and sparrow hawks, the bob-white quail, ring-necked pheasant, mourning doves, the long-eared, short-eared, barred, and screech owls, the red-headed, red-bellied, hairy and downy woodpeckers, and flickers. Winter days in Iowa are enlivened by the rollicking songs and antics of the black-capped chickadee, the "yank, yank, yank" of the white- and red-breasted nuthatches, and the scream of the gangster blue jay.

Iowa receives a few winter callers which nest near the Arctic circle and migrate south for the winter, among which are flocks of tree sparrows, slate-colored juncos, fluffy redpolls, the elegant Bohemian waxwing tramps, and the gypsy Lapland longspurs.

A few northern shrikes, American rough-legged hawks, goshawks, saw-whet owls, and snowy owls drop down to call during the winter months. Among erratic visitors during cold weather are Carolina wrens, winter wrens, and purple finches, while occasionally flocks of red crossbills and pine siskins come to feed in our coniferous trees, paying with their songs as they circle in flight.



Goldfinches

*Now that the giant sunflowers rise
Along the garden way,
The shy goldfinches, seeking seeds
Visit them through the day.*

*One fancies as one watches them
And hears their low refrain,
That they are sunbeams changed to birds
That seek the sun again.*

—ELIZABETH SCOLLARD

Are Your Feathers Legal?

THE STYLES IN LADIES' HATS this season are including a considerable showing of bird plumage and it may be of interest to know what some of the federal laws have to say about its use. Feathers of domestic fowl are not affected by them and dealers generally have been careful about the character of the material they use, but it is not so generally understood that it is partly the responsibility of the buyer to know that they are not illegal.

The following are abstracts of some of the more essential provisions of the statutes:

FEDERAL MIGRATORY BIRD TREATY ACT

(U. S. CODE, TITLE 16, SECS. 703-711)

"Sec. 703. That unless and except as permitted by regulations . . . it shall be unlawful to . . . possess, offer for sale, sell, offer to purchase, purchase . . . or ship . . . any migratory bird, included in the terms of the Convention between the United States and Great Britain . . . or any part . . . of any such bird."

"Sec. 707 . . . Any person . . . who shall violate any of the provisions of . . . this act . . . shall be deemed guilty of misdemeanor and upon conviction thereof shall be fined not more than \$500 or be imprisoned not more than six months or both."

FEDERAL LACY ACT

(U. S. CODE, TITLE 18, SEC. 391-395. PENAL CODE OF THE U. S.)

"Sec. 392. It shall be unlawful for any person . . . to ship, transport, or carry, by any means whatever, from any State, . . . to, into, or through any other State . . . any wild . . . bird, or the dead body or part thereof . . . imported . . . contrary to any law of the United States, or . . . purchased, sold, or possessed contrary to any such law, or . . . purchased, sold, or possessed contrary to the law of any State . . . in which it was captured, killed, taken, purchased, sold, or possessed or in which it was delivered or knowingly received for shipment . . . or from which it was shipped . . . ; and no person . . . shall knowingly purchase or receive any wild . . . bird, or the dead body or part thereof . . . shipped . . . in violation of this section; nor shall any person . . . purchasing or receiving any wild . . . bird, or the dead body or part thereof . . . imported from any foreign country, or shipped . . . in interstate commerce make any false record . . . in reference thereto."

"Sec. 393. All packages . . . in which wild . . . birds, or the dead bodies or parts thereof . . . are shipped . . . or conveyed, by any means whatever, from one State . . . to, into, or through another State . . . shall be plainly and clearly marked or labeled on the outside thereof with . . . an accurate statement showing by number and kind the contents thereof."

"Sec. 394. For each evasion or violation of, or failure to comply with,

any provision . . . any person, firm, corporation . . . upon conviction thereof, shall be punished by a fine of not more than \$1,000 or by imprisonment for not more than six months, or both."

FEDERAL TARIFF ACT OF 1930

(U. S. CODE, SUPPLEMENT IV, TITLE 19)

"Par. 1518. The importation of . . . the feathers, quills, heads, wings, tails, skins, or parts of skins, of wild birds . . . is hereby prohibited . . . The feathers, quills, heads, wings, tails, skins, or parts of skins, of wild birds . . . which may be found in the United States, on and after the passage of this Act . . . shall be presumed for the purpose of seizure to have been imported unlawfully after October 3, 1913, and the collector of customs shall seize the same unless the possessor thereof shall establish to the satisfaction of the collector that the same were imported into the United States prior to October 3, 1913; . . . and in case of seizure . . . the same shall be forfeited, unless the claimant shall . . . overcome the presumption of illegal importation and establish that the birds or articles seized . . . were imported into the United States prior to October 3, 1913, or were plucked in the United States from birds lawfully therein."

*The Blue Jay*

*Villon among the birds is he,
A bold, bright rover, bad and free;
Yet not without such loveliness
As makes the curse upon him less.
If larkspur blossoms were a-wing,
If iris went adventuring,
Or, on some morning, we should see
Heaven bright blue chicory
Come drifting by, we would forgive
Some little sins, and let them live!*

*Verlaine among the birds is he,
A creature of iniquity;
And yet, what joy for one who sees
An orchid drifting through the trees!
The bluebell said a naughty word
In mischief, and there was a bird.
The blue sky laughed aloud, and we
Saw wings of lapis lazuli.
So fair a sinner surely wins
A little mercy for his sins.*

—LOUISE DRISCOLL

PURPLE MARTINS that nested on the farm have been forced to call off their summer offensive against the insects because it is time for all of these birds to start their long flight to South America, where they will spend the winter. When these handsome and useful birds quietly disappeared several days ago, their departure was another reminder that, no matter what the thermometer may say during the next few weeks, summer has gone.

The martin is one insectivorous bird that wants an early start on its long flight to the Amazonian forests where there will be an abundance of insects for food during the cold months in North America. It doesn't want to be hurried on its migration, preferring, like several other insectivorous species, a leisurely "eat as we go" migration.

Before their long journey gets under way, however, the martins like to hold a brief flying circus and early autumn convention. Under some mysterious agreement, large numbers of these birds meet at different places in the northern states, give out with enough noise to make one believe they are swapping experiences, and watch the young birds practice their new flying routines in preparation for the trip to South America. We've often wondered where the martins that nest on the farm go before they head southward.

We know of one of these convention spots for martins in southern Wisconsin near a large lake, and we found another west of Chicago on the Mississippi river. But, as far as we know, no bird student seems to have discovered pre-migration meeting places for martins that nest around Chicago.

One of the men on the farm who watches birds a great deal remarked a few days ago that the DDT experiment which wiped out countless insects on the farm seems to have reduced the number of birds there. He pointed out that the feathered residents may have discovered all the insects they used to live on are missing as a result of the DDT offensive, and therefore have moved on.—"Day by Day on the Farm," *Chicago Daily Tribune*.



BIRDLIFE and its many curious conditions are becoming NEWS. Recent issues of leading Chicago, St. Louis and Des Moines papers have carried stories of several species illustrated with whole pages of photographs or reproductions of paintings in color. *Life* magazine has had several articles on birdlife, all beautifully illustrated, the most recent being on the American or bald eagle, with illustrations from paintings by Roger Tory Peterson.

And it is not only the metropolitan or national periodicals that now see their news value. In the Bloomington, Ill., *Pantagraph* of Saturday, June 1, which has been brought to our attention, are shown a number of photographs of a black-crowned night heron rookery which is said to have been occupied for the last 50 years. It is located in a grove of about eight acres which has been conserved for bird and animal life on the farm of Glenn Smith, near Chatsworth, Ill., and harbors about 200 birds each season.

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

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Some Notes on a Black Vulture Nest

By JAMES N. LAYNE

DURING A PERIOD of approximately fourteen weeks in the spring and summer of 1946 I had the opportunity of making frequent visits to a nest of the black vulture. While military duties and my own inexperience in



Black vulture nesting tree, Smyrna, Tenn.

nesting studies left much to be desired in the nature and amount of data that I gathered, I did learn much of interest concerning this unique bird

and obtained a fairly complete photographic record of the development of the young.

The nest in a vine-covered trunk of a tulip tree was located March 24 about twenty-five miles south-east of Nashville, Tennessee, near the Smyrna Army Air Field. It was situated in an openly-wooded area of approximately fifteen acres which was surrounded on all sides by cultivated fields. The cavity, the entrance to which was some eight feet above ground, measured about three and one-half feet long by one and one-half feet wide and was practically divided into two chambers by a slab of wood projecting from the inside of the trunk. The rubble of dead sticks and rotten wood chips on the floor of one of the chambers served as the nest. Although there was ample room for the young or adults to pass from one part of the cavity to the other they were always found in the section that had contained the eggs. No droppings or other evidence of occupancy were ever noted in the unused portion; and the nestlings, even at an early age, would scramble to the occupied section if placed in the other part.

Two eggs were in the cavity on March 24. They were bluish-green and irregularly spotted, more profusely toward the larger end, with rich brown. It was not possible to accurately determine the date of their laying; but by using thirty-five days as the incubation period — a figure supplied by Mr. H. O. Todd, an oölogist of Murphreesboro, Tenn. — and the fact that the eggs hatched before April 14, it was assumed that they were laid sometime during the first week in March.

On April 14 two young about five inches in length were found in the cavity with the remains of about three-fourths of an egg shell and another smaller piece. Noticeably different in size and weight, the nestlings were covered with woolly, tawny-colored down. The skin of their heads was black; their legs and feet, gray. Vestiges of the egg-tooth were visible on the beaks of both; and, although their movements were feeble, they frequently uttered a hoarse, cat-like note. The sex of the nestlings was never determined as the only external characteristics which set them apart were the difference in size and the fact that the larger had more down on the top of its head than did its nestmate. Whether these points were a clue to the sex of the young or simply due to a difference in age or to some other reason I was unable to decide.

A week later the young vultures had increased greatly in size and weight and had become quite aggressive, attacking my hand with a snap of the beak and an angry hiss whenever the opportunity presented itself. When placed on a dead log for photographing the larger nestling spread his wings and shifted his position until the sun was at his back, remaining thus for several minutes. When the young were about five weeks old they exhibited a new type of behavior. Up to this time they had always greeted my arrival with their peculiar whining growl and vigorously objected to being handled. Now, whenever I entered the cavity, both birds would stand motionless in the nest with their heads thrust into crevices in the wood of the inside of the tree. When I touched them, they would whirl in a flash, rush at me, then quickly resume their original position.

In the following weeks the birds became increasingly repulsive in appearance and habits. Their common trait of disgorging the remains of their last meal at the slightest provocation made handling them a particularly nauseating task. They also proved swift runners and extremely adept



Nestling about eight weeks old, June 8, 1946

at escaping into the tangled clumps of raspberry vines that grew near the nest tree. On June 8 they stood about eighteen inches, and their primaries had grown to the point where the distinctive white patch of the black

vulture's wing was visible. They were full feathered except for traces of down around the bare skin of the neck on July 7, approximately thirteen weeks after hatching. As I neared the nest on this date I saw one on the ground about ten feet from the tree. It soon became aware of my



Nestling about eleven weeks old, June 25, 1946

presence and leaped up to the entrance of the cavity — which on a previous visit I had enlarged — and disappeared inside. While the smaller nestling was being photographed it escaped and flapped to a dead cedar close by

and hopped up the ladder-like branches until well out of reach. Shortly after the other also demonstrated its newly acquired powers of flight by flying to the top of a large tree about eighty yards away. I thought it unnecessary to attempt to recapture the birds and replace them in the nest as both were near the site and the adult vultures had joined them.

Out of the fourteen trips made to the nest an adult vulture was found in the cavity on eleven occasions. It was frequently possible for me to climb to the entrance and look in upon the bird as it stood with its young in the nest. When flushing from the cavity it would claw and flap its way up the inside of the tree, pause a moment at the entrance, then flap off, sometimes remaining in the vicinity of the nest and at others soaring off out of sight over some distant hills. This bird was presumed to be the female although, as in the case of the young, I was never able to distinguish the sex of the parents. On only three visits were both adults observed near the nest. July 7, my last trip to the site, they appeared only mildly concerned over the disturbance of their home-life as they sat together in a nearby tree or circled low over my head, turning their heads inquisitively to watch me.



Increase of Purple Martins

By KARL E. BARTEL

WE OFTEN WONDERED whether purple martins increased from year to year. In 1936 Alfred H. Reuss and I decided to find out. Living in Blue Island, Ill., a city of 16,500 population and covering an area of about two miles wide by four miles long, this did not seem to be too hard a problem.

So, August 1st we started up one street and down another to canvass the city. This took us about ten days.

The results were very promising as all who had houses up cooperated splendidly. Many of the places were found to be not suitable for martins, and our suggestions brought forth new houses the following year. After three years of this survey Mr. Reuss gave it up, but I have continued it until now and hope to continue indefinitely.

I have discovered many things about martins. Some of them are:

1. In order to have martins, starlings and sparrows must be kept out, at least at first.
2. Martins like triangular rooms best, with the entrance near the small angle; a good size is 8x12x14.
3. The house should be painted mostly white.
4. Place as many $\frac{3}{8}$ inch dowels around the house as you can for perching space.
5. Place the house at least 20 feet from the nearest tree or building.

This survey was conducted to find out whether the nesting population increased, so the offspring were not counted. Each year I ask every person who has a house up how many pairs of nesting martins he has, and I believe the results are at least 99% accurate.

In the 11 years for which I have records 72 different persons had martin houses at one time or another, but only 66 of them were fortunate enough to have martins nesting during that time. The population changes year by year were as follows:

<i>Year</i>	<i>Pairs</i>	<i>Locations</i>	<i>Year</i>	<i>Pairs</i>	<i>Locations</i>
1936	193	29	1942	305	40
1937	151	28	1943	287	36
1938	212	29	1944	330	35
1939	252	31	1945	331	36
1940	266	35	1946	304	33
1941	292	38			

The conclusion I draw from these figures is that purple martins do increase from year to year under favorable conditions. A hot and dry year will result in a drop in nesting pairs the following year. The dry year 1936 brought a drop of 42 nesting pairs in 1937. The low number of nesting pairs in 1946 (304) I attribute to the long cold spring of 1945 which kept the insect population down, causing the young birds to starve and leaving fewer young birds to take up nests. The large total for 1945 (331) was probably brought about by the cold weather north of here, causing the birds to take up nesting here instead of farther north.



THE WILD DUCK POPULATION of continental North America for the year 1946 was estimated at 80 million birds. That would be about a half a duck per person for our human population. There were two million duck stamps sold to hunters for that season, or an average of 40 birds to each hunter. The daily bag limit of seven authorized each hunter, each day of the season, to kill his half-duck, your half-duck, my half-duck, along with eleven more half-ducks belonging to other citizens, most of whom would much prefer seeing their half-ducks left alive. Continuing with that thought, if each hunter took his limit for just six days the duck population of our country would be absolutely exterminated. Think that over.



The Crow

*My friend and neighbor through the year,
Self-appointed overseer*

*Of my crops of fruit and grain,
Of my woods and furrowed plain,*

*Claim thy tithings right and left,
I shall never call it theft.*

*Nature wisely made a law,
And I fail to find a flaw*

*In thy title to the earth,
And all it holds of any worth.*

*I like thy self-complacent air,
I like thy ways so free from care,*

*Thy landlord stroll about my fields,
Quickly noting what each yields;*

*Thy courtly mien and bearing bold,
As if thy claim were bought with gold;*

*Thy floating shape against the sky,
When days are calm and clouds are high;*

*Thy thrifty flight ere rise the sun,
Thy homing clans when day is done.*

*Hues protective are not thine,
So sleek thy coat each quill doth shine.*

*Diamond black to end of toe,
Thy counter-point the crystal snow.*

*Friendly bandit, Robin Hood,
Judge and jury of the wood.*

*Or Captain Kidd of sable quill,
Hiding treasures in the hill.*

*Nature made thee for each season,
Gave thee wit for ample reason,*

*Good crow wit that's always burnished
Like the coat her care has furnished.*

*May thy numbers ne'er diminish,
I'll befriend thee till life's finish.*

*May I never cease to meet thee,
May I never have to eat thee.*

*And mayst thou never have to fare so
That thou playest the part of scarecrow!*

—JOHN BURROUGHS

Albino White-throat

MR. KARL E. BARTEL, of Blue Island, has supplied us with the portrait of an albino white-throated sparrow which he captured in a trap at his Oak Hill banding station on October 19, 1946.



Albino White-throated Sparrow

PHOTO BY WATLING BROS.

The only points of identification were the yellow spot before the eyes and a tinge of lemon yellow at the bend of the wing which all white-throats have. The eye was very dark.

The bird was deposited with the Brookfield Zoo and may be seen there by anyone sufficiently interested.



WHILE HIKING thru the farm fields and woods these days and while looking for birds that will be spending the winter with us, your thinking inevitably takes you back to the days when most of the fields resounded to song during the summer months. Then you are reminded of the distances many of the summer bird residents are travelling this fall to spend the winter.

For example, one field you walk thru is brown and almost devoid of birdlife this week. Yet only a few months ago it was the home of the bobolinks which nest on the farm each year. This lovely songster is typical of the farm birds that scatter far and wide for the winter months. The bobolink flies southeast to the Atlantic coast. Wherever wild rice

is growing the birds congregate and try to fatten up for their long journey to South America. They fly during the day and also at night.

Within the next few weeks the bobolinks will be hopping off for Cuba. Then they will continue across the Caribbean to South America where they will winter in the central part of that continent.

Countless thousands of them stay in the swampy area known as the Chaco where there are grass grown savannas. The birds used to be safe there. But today ornithologists are worrying over the fate of the bobolink, since the Chaco has become settled by colonists from southern Europe who shoot and eat all kinds of sparrows, blackbirds, and other small birds.

The wood thrushes that called the farm their home this summer are on their way to southern Mexico and the Canal Zone. They take an entirely different migration route from that followed by bobolinks.

The catbird, another entertaining songster that nests on the farm, makes quite a trip each fall to find a delightful wintering spot. (While hiking over the farm these days it's possible to see the nests of these birds in what used to be heavy thickets.) An occasional catbird may stay north all winter but the smart representatives of the species travel to the southern states and some of them hop off for Cuba, the Bahamas, and even Panama.

Associated with the catbird in "concert work" on the farm during the month of May is the brown thrasher. Walking thru the one small wooded area in the center of the farm where wild crab-apple, thorn-apple, and plum trees are numerous brings these two birds to mind. In the spring they seem to vie for singing honors.

The scarlet tanager, the most vividly plumaged bird on the farm every summer, is going to be a long way from Chicagoland this winter. It will be wintering from Colombia down thru Bolivia.—Bob Becker in "Day by Day on the Farm," *Chicago Daily Tribune*, Oct. 20, 1943.



Down Flossmoor Way

By CLARA COCHRANE CODY

A MARCH MORNING; wind; cold; sunshine. As we sped along we felt, in spite of leafless trees and no green thing in sight, that spring was around the corner, playing peek-a-boo with us. In front of several real estate offices the red bannerets were gallantly flying, and early home seekers were questioning eagerly, as is the annual fashion. No doubt many were already in a dream of the near future, picking luscious strawberries, and gathering pink roses from the home garden-to-be on the prairie!

Here and there was a "golden blur" of yellow, touched already by the Midas in nature who changes often the growing things to pulsing, living gold—visual delights.

Presently from the bare corn fields the cawing of the crows, — a pair already busy carrying sticks to a tall tree in the woods, like human beings with spring fever for a home.

Parking the car we started through the leafless woods. Robins, several;

"Cheer-i-ly, cheer-i-ly," as usual; bluebirds, too, sapphire in the brilliant, cold March sunshine, — fortunately not too cold for the sweet, throaty contralto, "Pu-ri-ty" — a dear little love song, albeit a trifle sad.

Then suddenly from the nearby fields, a whirl of wings, a score of brownish birds larger than a robin, with black velvet crescents worn proudly and becomingly on beautiful yellow breasts and white tail feathers conspicuous in flying. Our field lark—our meadow lark, of course! Then from stumps and old fence, the orchestra of flutes, sweet, plaintive, minor, "Where are you, dear? It's spring of the year!"

It is interesting to note that two of our earliest birds to return — the bluebird and meadowlark — possess sad songs with which to greet the spring; one over cheery friend, the robin, gives the right balance, always in major key.

When in Cuba before Christmas I saw meadowlarks much like our northern ones, with the same rude trick that seems to run in the family (as traits sometimes do) of turning their backs upon me. We forgive the rudeness because of their beauty; we forgive the sadness of song because of its exquisite sweetness; we love to have them inquire so concernedly, "Where are you, dear?" then thrill and comfort us by declaring clearly and unmistakably that it's "Spring of the year."

BIRD-QUESTING IN DUNDONALD LANE

Blue sky; great cloud masses hanging low, reminding one of England; the distant gentle hills of Beverly wearing veils of blue, of a lower value than the sky.

In spite of a biting March wind we were off on a quest for our tawny little brother of the air, the fox sparrow, to be expected about this date.

Sandwiches and hot coffee in the car in Dundonald Lane; then with opera glass slung over shoulder we started questing, to discover what might be our share in the bird joys of March, hoping for the fox sparrow. Knowing that our friends are not fond of singing in a keen wind, we spied a little thickety copse to the westward. Settling ourselves comfortably against a big tree trunk for semi-shelter, we waited.

Flocks of robins lent happy, ruddy color to bare branches and fields. Flocks of juncos, too, lingering a little longer before going to the Northland to nest; the air was filled with their curious "Kiss-ing" note.

Suddenly, overhead, a high-pitched, rapidly repeated "Killy-killy-willy," a few quick beats of the wing, a graceful short sail; clear-cut wings silhouetted against the sky, then settled on a nearby oak; a lovely group of five little sparrow hawks (often called Killy hawk), quite the Beau Brummels of the tribe. Dressed in a suit of bright rusty brown, relieved by a vest of creamy buff, a cap of slatey blue, the costume accented in a very chic way by touches of black.

Then from a bush came "Sweet-sweet-sweet! very merry cheer"; from another bush, an answering merry cheer. It was not our fox sparrow, but a cousin of his, the Dearest of the family, whom to know is to love. Dressed like a Quaker is he, but sporting a little black locket on gray

breast. He is easily identified by this small lavalier — odd fashion for a male — and also by the slightly detached notes with which he nearly always begins his varied melodies.

He must make a delightful husband, always cheerful, always "gentle-joyful," even under the somewhat trying circumstances of helping feed the third or fourth family brood. Surely his wife must be a very happy little creature, although she never tells us, leaving to her mate all the optimistic talking. From early March to late November he fills the fields and hedges with cheer; he is nothing if not social, and is devoted to the lowly nest in grass or little tree.

The sun was low; it was time to begin our homeward trip, however reluctant. We had not seen the special object of our quest, but what matter? March joys of field and copse had been ours — real possessions that no one could pilfer!

The wind had gone down, a benediction rested upon the woods. From apparently nowhere some thirty juncos, not "kiss-ing" but singing — a rare treat occasionally heard just before they leave us. The little song might not, perhaps, attract your attention if one junco gave it, but to hear thirty at once sing the clear, sweet little sort of trill is a thing to be always remembered.

And once more from the thicket down the lane came to our ears the message of the song sparrow, the lover of hedges, shrubs and little trees, telling us "That lowly homes to heaven are near, in Sweet-sweet-sweet! very merry cheer."

THE EDGE OF APRIL

Gray sky; gray mist; golden sands of Dune land; soft air a caress.

Only one thing to sadden us enroute. There in the road lay a red-headed woodpecker, our "flag-bird" of red, white and blue, his gorgeous crimson head making a brilliant splash of color on gray roadway.

Early luncheon in a tiny dune restaurant, clean as the proverbial pin. A little table on which bloomed bravely a potted cineraria, drawn into the window for us. From this coign of vantage we could look down the village street of the hamlet into the woods. Such fresh eggs! Such buckwheat cakes and maple syrup! This particular brand had been intimately acquainted with a maple tree.

Driving a few miles farther we reached "Heart's Desire." Much did we speculate as to the possible reason for christening the shabby little place, half restaurant, half shop, this provocative name. A romance perhaps, tucked away, well out of sight.

Our heart's desire was to park the car safely. On asking permission to do so under a big tree near, we were assured it would be "just fine there"; so, care free, we started down the long road to the woods; everywhere, pussy willows pushing off their caps to see what the edge of April looked like.

We came upon a rambling, old, apparently deserted farm house. Peeping through unshuttered windows, to our surprise, there was everything for comfort — all ready for the summer occupants, we guessed. It was

a lovely overgrown place; a happy little stream near, and, all about, the lure of woodland trails over the dunes, very gentle ones at this point.

A bird sanctuary! And here they were.

No need to go questing. Nuthatches, animating the old tree trunks, square of tail, long of bill, our little tree mice; real bird Yankees with nasal tones. A swamp sparrow was pattering about in the soft mud; there were still many tree sparrows, familiarly known as winter chippies; red and brown crown, two pretty white wing bars, and voices like "tinkling bells" — sweet, not strong.

Hundreds of juncos still with us. They seemed to be holding a very important meeting with the tree sparrows; nearly everyone voiced an opinion. From what I know about bird talks, I judged they were trying to decide upon the hour to leave for the North, to mate and set up house-keeping. There were many pros and cons, but all were as sweet as possible about it. No doubt everything was satisfactorily settled, and we shall probably not see these two feathered friends again until autumn.

A phoebe, too, a bit early I should think, for a flycatcher. Perhaps he thought so, as, for a wonder, he was perfectly silent, not making the usual demand for "phoe-be." He had eyes fixed on a little bridge and maybe he was planning his small bungalow in this favorite location.

But what was the noise in the dry oak leaves? There was not even a gentle breeze. Could there be chickens scratching? No; these were red-brown scratchers, but little brighter than the leaves, and a bit over seven inches long. The great event of March, long looked for, at last on the edge of April! His Tawny Majesty, the Fox Sparrow — not one or two, but a score at least.

Presently a whirl, and from many a bush the lovely, rich song, full of emotion, but all too short. It seemed as if all were singing. We were out of breath with the delight and surprise of it. What a dandy he is in warm suit with whitish breast and dashes and arrow-heads of red-brown!

There are thrills without number for the nature lover in early spring. The "ok-a-lee" of the marsh red-wing, in epaulets of red, orange-edged; the golden willows and crimson dogwood; the sapphire of a bluebird's back; the shy opal colored beauty of hepaticas.

But the greatest thrill is the melodious carol of the fox sparrow, perhaps towards sunset time in the golden dune country, provided one is listening with a friend who "loves what is lovely" and with whom one can be silent — on the edge of April.

From "Birds and Blossoms," copyrighted by Mrs. A. B. Cody.

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Christmas Census—1946

CENSUS TAKERS for this season were more fortunate in the weather conditions encountered than have been the groups for the two previous years. While some snow was present, up to six inches in depth in one report, the handicaps of icy roads and sub-zero temperatures which affected the earlier

years were absent. This may account for the increased number of reports, twelve this year as against nine and seven for 1944 and 1945 respectively.

With the additional reports there appears a correspondingly greater number of both species and individuals. 1944 reported 75 species and about 15,000 individuals; 1945, 69 species and about 12,000 individuals; this year lists 87 species and a total of over 46,500 individuals. This great increase in individuals is readily explained by the fact that large numbers of mallards were still lingering on Lake Springfield and the Illinois and Mississippi Rivers, and there again was a concentration of starlings around Springfield.

Of the 87 species none appears in all of the reports; the crow, cardinal and junco are in all except the Belmont Harbor list, which shows only water birds. Present in all but two lists were the downy woodpecker, chickadee, starling and English sparrow, the first two not on the Waukegan report and the latter two not being listed by Mr. Dahlberg from Winghaven, his place near Knox, Indiana.

An interesting comparison may be made from the three lists which centered about Morton Arboretum. They show that no one person or party is likely to get all of the species, or of the individuals of the species, present on any one day. The largest list shows 21 species and 361 individuals, while a composite list showing the largest number found in any one day records 30 species and 516 individuals, with ten species appearing on only one list each, nine on two lists, and eleven on all.

We appreciate the efforts that have been put forth in making these seasonal reports, which are growing in both number and interest, and we hope that all will be back again along with several more for the 1947 count.

Blue Island, Cook County; in the vicinity of Oak Hill banding station and fields south and east; Dec. 22 to 29 (listing largest number seen in any one day); ground hard at first, after the 27th four to six inches of snow; temperature ranging from 38° to 2°. Ring-necked pheasant, 3; herring gull, 60; screech owl, 1; flicker, 2; hairy woodpecker, 1; downy woodpecker, 4; blue jay, 1; crow, 10; black-capped chickadee, 7; tufted titmouse, 3; white-breasted nuthatch, 1; golden-crowned kinglet, 1; starling, 200+; English sparrow, 30; cardinal, 3; junco, 24; tree sparrow, 15; song sparrow, 2; total, 18 species, 366+ individuals. (Dec. 12 a sharp-shinned hawk was seen, Dec. 13 a goldfinch, Dec. 20 a robin, and Jan. 5 a red-shouldered hawk.)—Karl E. Bartel.

Fifteen-mile circle with Brussels, Illinois, as a center, and including Pere Marquette State Park and Calhoun County Wildlife Refuge; 75% lowlands of Mississippi and Illinois Rivers, 25% upland orchards and deciduous woods; Dec. 29; mostly overcast; ground bare; temperature 15° to 20°; wind north, varying from 10 to 25 m.p.h.; 31 observers in three groups; total hours, 21; total miles, 184 (162 by car, 22 on foot). Canada goose, 55; mallard, 5,650; black duck, 10; pintail, 31; redhead, 3; ring-necked duck, 15; lesser scaup, 37; American golden-eye, 11; sharp-shinned hawk, 1; Cooper's hawk, 1; red-tailed hawk, 11; red-shouldered hawk, 1; bald eagle, 16; marsh hawk, 3; sparrow hawk, 3; bob-white, 22; coot, 2; killdeer, 3; Wilson's snipe, 1; herring gull, 50; ring-billed gull,

64; rock dove (in quarries), 43; mourning dove, 5; barred owl, 1; flicker, 9; pileated woodpecker, 1; hairy woodpecker, 7; downy woodpecker, 38; northern horned lark, 251; blue jay, 17; crow, 19; black-capped chickadee, 17; tufted titmouse, 122; white-breasted nuthatch, 3; brown creeper, 3; Carolina wren, 23; mockingbird, 1; robin, 2; bluebird, 27; golden-crowned kinglet, 4; starling, 251; house sparrow, 439 (est.); meadowlark, 1; red-winged blackbird, 2; cardinal, 360 (est.); goldfinch, 56; slate-colored junco, 850 (est.); tree sparrow, 1,020; swamp sparrow, 1; song sparrow, 19; total species, 53; total individuals, approximately 8,586. (Four short-eared owls, several shrikes in this area two days previous to count, and just off territory a Kreider's hawk observed with 8x40 Zeiss binoculars.)—Pere Marquette Nature League, O. C. K. Hutchinson, President, and Trail Rangers of America; Rev. George M. Link, Virginia Ward, Alice Waterbury, Lora Ward, Eda Ward, David Dale, Louis Wilhite, Beatrice Waterbury, Corida Hanna, Francis Woltmann, Peter Leach, Jeannot Chameau, James Meno, Neil Waterbury, Gilbert Knight, Joseph Arnold, Clifford Miller, Donald Knight, John Buese, John Decker, Alvin Jones, Herbert Roop, William Manes, Jackie Vincent, O. C. K. Hutchinson, Cora Hutchinson, M. A. Berry, Lillian Berry, Al Kaszynski, Cecelia Kaszynski, Charles Laun.

Chicago, Cook County; Belmont Harbor; Dec. 29; 7:00 to 8:00 A.M.; harbor open, wind NW, snowing lightly; temperature 30°; one mile on foot. Double-crested cormorant, 1; canvas-back duck, 5; American golden-eye, 15; American merganser, 3; red-breasted merganser, 5; herring gull, 37; total species, 6; total individuals, 66.—G. B. Schenong, E. Ackerson, Miss H. Madsen.

Glen Ellyn, DuPage County; in Glen Ellyn and Morton Arboretum; Dec. 26; 9:30 to 3:30; wind about 12 m.p.h.; temperature 24° to 30°. Long-eared owl, 2; hairy woodpecker, 3; downy woodpecker, 8; horned lark, 3; blue jay, 2; crow, 137; chickadee, 15; tufted titmouse, 5; white-breasted nuthatch, 5; red-breasted nuthatch, 1; brown creeper, 4; golden-crowned kinglet, 7; starling, 26; English sparrow, 90; grackle, 1; cardinal, 14; purple finch, 6; goldfinch, 12; pine siskin, 3; junco, 13; tree sparrow, 5; total species, 21; total individuals, 361.—Mildred Davis, Martha Stoffer, Marie VanLone, June Farmer, Erma Chayce, Connie Hinds, Jean Stevens and son John, Mrs. Gretz, and Fay E. Hunter.

Joliet, Will County; Pilcher Park Arboretum; Dec. 25; 9:30 to 4:00; clear; wind west; light snow on ground; temperature 20° to 32°; total miles, 23 (19 by car, 4 on foot); observers together. Red-tailed hawk, 1; rough-legged hawk, 1; marsh hawk, 2; sparrow hawk, 1; downy woodpecker, 3; blue jay, 1; crow, 6; chickadee, 6; tufted titmouse, 1; white-breasted nuthatch, 2; brown creeper, 1; Carolina wren, 1; golden-crowned kinglet, 5; starling, 15; English sparrow, 2; cardinal, 4; common redpoll, 16; junco, 5; tree sparrow, 4; song sparrow, 2; total species, 20; total individuals, 79.—Mr. and Mrs. Campbell, Mrs. Amy G. Baldwin, Karl E. Bartel.

Knox, Indiana; neighborhood of Winghaven; Jan. 5. Cooper's hawk, 1; downy woodpecker, 1; red-headed woodpecker, 1; crow, 30; black-capped

chickadee, 1; tufted titmouse, 3; white-breasted nuthatch, 1; cardinal, 1; junco, 12; total species, 9; total individuals, 51.—Wendell Dahlberg.

Lake Geneva, Wisconsin; around entire lake by car (lake front 30%, cattail marsh 10%, swampland 25%, open farmland 5%, deciduous woods 20%, tamarack swamp 10%); Dec. 22; 7:15 to 4:30; clear; 5 to 10 mile wind from west; lake entirely open; temperature 25° to 35°; observers together except in two parties from 11:30 to 2:00; total miles, 37 (28 by car, 9 on foot). Horned grebe, 2; pied-billed grebe, 2; Canada goose, 82; mallard, 51; black duck, 48; green-wing teal, 30; redhead, 2; ring-necked duck, 107; canvas-back, 159; scaup (sp?), 170; golden-eye, 1,090; bufflehead, 72; white-winged scoter, 1; ruddy duck, 10; hooded merganser, 44; American merganser, 375; red-breasted merganser, 12; red-tailed hawk, 5; ring-necked pheasant, 15; coot, 1,250; herring gull, 250; ring-billed gull, 3; flicker, 5; hairy woodpecker, 2; downy woodpecker, 11; blue jay, 4; crow, 230; chickadee, 11; white-breasted nuthatch, 5; brown creeper, 3; robin, 1; starling, 100; English sparrow, 40; red-wing blackbird, 1; rusty blackbird, 8; cardinal, 5; purple finch, 5; common redpoll, 15; goldfinch, 4; slate-colored junco, 46; tree sparrow, 34; song sparrow, 1; snow bunting, 1; total species, 43; total individuals, 4,309; there were approximately 2,000 additional unidentified ducks in center of lake.—Earl Anderson, Philip DuMont, C. O. Palmquist, James Stevenson.

Lisle, DuPage County; 800 acres within the borders of the Morton Arboretum and including groves of conifers, hardwoods, fields, and brush rows; Dec. 29; 9:30 A.M. to 4:30 P.M.; snowy in forenoon, clear in afternoon; 4-in. soft snow on ground, trees, and shrubs; 35° at start, 25° at return; wind 10 m.p.h. NW. Thirty-two observers, mostly together, using seven cars between points because of snow; total miles, 10 (6 by each car, 4 on foot). Marsh hawk, 1; ring-necked pheasant, 1; downy woodpecker, 5; prairie horned lark, 70; blue jay, 8; crow, 150 (est.); black-capped chickadee, 11; golden-crowned kinglet, 7; cedar waxwing, 4; starling, 4; English sparrow, 20; cardinal, 12; evening grosbeak, 1; purple finch, 2; redpoll, 10; goldfinch, 2; red-eyed towhee, 1; slate-colored junco, 26; tree sparrow, 11; total, 19 species; 346 individuals.—Members and friends, Chicago Ornithological Society, Karl E. Bartel, field chairman.

Lisle, DuPage County; Morton Arboretum; Dec. 19; 9:00 to 3:30; ground bare; wind NE; temperature 15° to 25°; total miles, 13 (8 by car, 5 on foot). Cooper's hawk, 1; red-tailed hawk, 2; pheasant, 2; long-eared owl, 9; short-eared owl, 2; hairy woodpecker, 3; downy woodpecker, 5; blue jay, 1; crow, 150+; chickadee, 11; tufted titmouse, 4; white-breasted nuthatch, 2; red-breasted nuthatch, 1; golden-crowned kinglet, 6; starling, 6; English sparrow, 4; cardinal, 14; common redpoll, 29; goldfinch, 1; junco, 9; tree sparrow, 4; total species, 21; total individuals, 266+.—Karl E. Bartel.

Fifteen-mile circle with Michael, Illinois, as a center (80% river lowlands, 10% orchards, 10% deciduous woods); Dec. 28; overcast; ground bare; wind N veering to E, 3-10 m.p.h.; temperature 30° to 40°; observers in two parties; total hours, 14; total miles, 80 (72 by car, 8 on foot).

Sharp-shinned hawk, 1; red-tailed hawk, 22; red-shouldered hawk, 2; bald eagle, 2; marsh hawk, 9; sparrow hawk, 6; bob-white, 61; killdeer, 5; Wilson's snipe, 4; ring-billed gull, 83; rock dove (living on bridge), 22; mourning dove, 4; great horned owl, 1; belted kingfisher, 1; flicker, 4; red-bellied woodpecker, 34; red-headed woodpecker, 3; hairy woodpecker, 5; downy woodpecker, 16; blue jay, 9; crow, 75; black-capped chickadee, 20; tufted titmouse, 43; white-breasted nuthatch, 3; brown creeper, 1; Carolina wren, 9; bluebird, 6; starling, 65; house sparrow, 425; cardinal, 300; purple finch, 12; goldfinch, 80; slate-colored junco, 237; tree sparrow, 122; song sparrow, 14; total species, 35; total individuals, approximately 1,706.—Rev. George M. Link, Helen Zipprich, Dorothy Zipprich, Emma Carpenter, Marjorie Stelbrink, Sarah Jane Becker, Melba Roth, Anna Roth, Mrs. Wm. Stelbrink, John M. Buese, John Decker, David Dale, Mrs. Beatrice Waterbury, Neil M. Waterbury, Mrs. Corida Hanna, Mrs. Grace Miller, Francis Miller, Robert Miller, Alvin Jones, James Meno.

Springfield, Sangamon County; $7\frac{1}{2}$ mile radius about city; Dec. 22; 6:45 to 5:25; wind 5 to 15 m.p.h.; temperature 30° to 40° . Pied-billed grebe, 1; great blue heron, 1; Canada goose, 1; mallard and black ducks, 20,011; pintail, 5; ring-necked duck, 2; canvas-back, 2; lesser scaup, 1; golden-eye, 1; hooded merganser, 12; American merganser, 13; red-breasted merganser, 1; sharp-shinned hawk, 1; Cooper's hawk, 3; red-tailed hawk, 2; red-shouldered hawk, 10; rough-legged hawk, 1; sparrow hawk, 6; bob-white, 34; coot, 1; rock dove, (?); mourning dove, 4; ring-billed gull, 100; barn owl, 1; screech owl, 1; horned owl, 1; barred owl, 5; belted kingfisher, 3; flicker, 11; red-bellied woodpecker, 44; red-headed woodpecker, 2; hairy woodpecker, 21; downy woodpecker, 83; prairie horned lark, 30; blue jay, 115; crow, 276; black-capped chickadee, 130; tufted titmouse, 153; white-breasted nuthatch, 57; brown creeper, 12; Carolina wren, 42; robin, 1; bluebird, 1; golden-crowned kinglet, 66; cedar waxwing, 5; starling, 5,250+; English sparrow, 1,000+; red-wing blackbird, 3; cardinal, 224; purple finch, 14; goldfinch, 99; junco, 535; tree sparrow, 160; white-throated sparrow, 6; fox sparrow, 3; song sparrow, 24; Lapland longspur, 1; total species, 58; total individuals, 27,804.—Mrs. Herman Eifert, William V. O'Brien, Lois and Beatrice Hopwood, Mrs. Christine Bonney, Bill Robertson, Mr. and Mrs. R. Carter, Opal Rippey, Lena and Lois Hardbarger, Edith Sutton, N. E. Nilsson, Miss Ailyns.

Waukegan, Wis.; Harbor, Public Service Pond, and pine grove and beach north of city; Jan. 1; 9:00 A.M. to 4:00 P.M.; cloudy; temperature 15° to 28° ; wind SE; 4-in. snow; water open on Public Service Pond and small spots open in harbor and along lake front; four observers together; total miles, 20 (5 on foot, 15 by car). Mallard, 10; greater scaup, 175; lesser scaup, 10; golden-eye, 30; buffle-head, 1; old squaw, 10; ruddy duck, 2; American merganser, 125; red-breasted merganser, 30; sparrow hawk, 1; ring-necked pheasant, 3; coot, 1; herring gull, 200; ring-billed gull, 25; barred owl, 1; crow, 4; red-breasted nuthatch, 1; starling, 11; English sparrow, 15; cardinal, 1; redpoll, 18; slate-colored junco, 7; total, 22 species; 581 individuals.—Karl E. Bartel, Amy G. Baldwin, Mrs. A. W. Lilly, and Crag Orear.

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

ACTIVE MEMBERS	\$2.00 annually
CONTRIBUTING MEMBERS.....	\$5.00 annually
SUSTAINING MEMBERS.....	\$25.00
LIFE MEMBERS	\$100.00

THE
ILLINOIS AUDUBON SOCIETY
(ORGANIZED IN 1897)
For the Protection of Wild Birds

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The Barn Swallow

By IVAN MERRILL*

AN ACCOUNT dealing with the common barn swallow is possibly a waste of time and effort in this money mad era of realism, but on the other hand, so characteristically beautiful and graceful is this tuft of nature that Burroughs found it pleasant to characterize it in his "Under the Maples" something like this: "Is not the swallow one of the oldest and dearest of birds? Known to the poets and sages and prophets of all peoples. So infantile, so helpless and awkward upon the earth, so graceful and masterful on the wing, the child and darling of the summer air, reaping its invisible harvest in the fields of space as if it dined on sunbeams, touching no earthly food, drinking and bathing and mating on the wing, swiftly, tirelessly cursing the long day through, a thought on wings, a lyric in the shape of a bird. Only in the free fields of the summer air could it have got that steel-blue of wings and that warm tan of the breast."

I find that quite to my liking, as far as mere words can do justice to this creature, which could easily have derived its being in the fairyland of fantasy, or have taken to living wing from some wisp of wind-blown smoke as it wended its graceful way over the field in the cool damp of a spring evening.

Last summer while on a visit to some farm friends in Fayette County, Illinois, my attention was called to what I deem a very unusual, beautiful and homey sight. It was milking time when Minnie and Ed shouted for me to come to the barn, then pointed nonchalantly to a nest on the side of the loft rafters. This was a barn swallow nest and one with a history and family life attached to it that could easily be the envy of most of us that enjoy being accounted for as human beings.

The nest was made in the usual manner of the barn swallow, except that it was attached perilously close to the cows that were attended daily here in their stanchions. All in all there was probably four feet clearance from the cow's back to the nest; an average height man could easily have reached up and destroyed the home, yet this same nest has been there for seven years. Each year the swallows return to it, remodel it and move in, set up housekeeping and assume the season's duties, that of raising strong healthy families, and such housekeepers as they are! Here among the heavy cobwebs and chaff they keep a neat, tidy nursery. No droppings are ever allowed in the nest; even the very young birds are soon taught that cleanliness is next to Godliness, and they, being of Godlike nature, thrive

*Mr. Merrill is the editor of a nature column, "Out of Doors with Ivan Merrill," in the East St. Louis (Ill.) Journal.

on the maxim. This has been going on for seven long years, and through these years Ed has played the role of nursemaid, cleaning away the mess that they make in his milking parlor each day and night.

During these seven years they have lost but one of their young; then one of the numerous cats made away with the luckless victim. But the cats, too, have a certain respect for these birds that come and go among the cows and people without any fear whatsoever. If Tabby happens to be eyeing the nest too intently you will hear a *trrrrrr*, then a blue living flash darts downward, turns abruptly upward, and repeats the performance again and again until the feline attacker retreats under the manger. Back among the stock will not suffice, for these blue darts have no fear of them and will dart in and even under them in their persistent pursuit of Tabby. When danger is all past you can see the parent birds sitting on the electric wires that run to the barn, sitting there restful and contented, uttering a peaceful *wick wick* or *twick twick*.

I followed their life from time to time throughout the summer. After the first brood were able to shift for themselves you could see them darting in and about the buildings or out over the fields, then away to the nearby creek, but always they came to rest on the wires that their parents had used during their infancy. During the summer the parents raised two broods, and in the early fall evenings you could count fourteen swallows sitting in contentment on the safety of the light wires.

Come next spring there will be only two return. It has been thus for the seven past seasons, but they will go straight to the nest and prepare it for restarting the cycle. During the seven seasons this cycle has varied little; I believe that Ed told that one time they raised three broods, but usually it's just the two, and always there have been six little ones hatched.

Ed doesn't know just how much longer that the nest will adhere to its rafter, but he hopes it stays as long as he remains on earth, for there is something about the contentedness, the regularity of habit, the trusting friendliness of these creatures that has endeared them to his own family life; without them there would be an emptiness in the barn at milking time.



From Rocky Gorge to Canyon Streets

By ISABEL B. WASSON

A DARK gray bird suddenly shoots out from the high wall and flies swiftly over the roof tops. His sharp-pointed wings beat rapidly as he zigzags back and forth. His shrill call, like a policeman's whistle, brings bird students on the 23rd floor to the window. The duck hawk, wildest and swiftest of our falcons, has moved into Chicago's loop. The canyon streets and skyscrapers with jutting cornices remind him of rocky ledges in the mountains.

All at once he hovers high above the narrow street and drops onto a flock of pigeons sending them whirling around the corner. In another moment he zooms up to the matching walls of the buildings where he disappears. With careful hunting you may find him sitting quietly on a

window ledge, wings crossed above drooping tail, big round eyes set forward on flat head, dark mustache, all marking him plainly as a falcon. Many a business man keeps a pair of binoculars on his desk and knows the favorite cornice which is a duck hawk's perch.

The duck hawk has not only invaded Chicago but is a frequent visitor to lower Manhattan. He nests on the Palisades of the Hudson and has been known to cross to New York City and return with a pigeon in fifteen minutes round trip. Such speed, skill and endurance are worthy of the duck hawk which is the closest relative of the peregrine falcon of Europe. There he has been prized for falconry for centuries.



CHICAGO ACADEMY OF SCIENCES PHOTO

Immature duck hawk

The pigeon and starling which furnish the duck hawk with tasty meals and so have lured him into our cities are themselves descended from inhabitants of rocky gorges. The ancestor of our common pigeon, the rock dove of the Old World, nested on precipitous cliffs. Having been domesticated in ancient times, pigeons have developed into many breeds. Although most of them in the loop nest in dove-cotes, many have found nesting sites on

the ledges around museums and libraries. Occasionally a colony of domestic pigeons will be found nesting away from the cities on rock cliffs and thus have returned completely to their former haunts. The writer was startled to find such a colony in the foothills of the Colorado Rockies nesting by cliff swallows.

The European starlings which greet the visitor to the Art Institute and Chicago Natural History Museum have sought the companionship of man from early times. According to Virginia Eifert¹ the tribe of starlings began in the pleasant valleys of the Himalayas. They left the rock cliffs for pagodas provided them by Brahmans. Later the family spread through the Orient to Europe, and in 1890 eighty birds were brought to New York City. No wonder the starling enjoys the domes, towers and window ledges of our tall buildings. It was perhaps to be expected that the bird which preys on pigeons and starlings would leave his native haunts to follow them into the city.

It is hoped that the duck hawk will be preserved in our cities and valued for the superb bird that he is. He plucks his prey in wild flight from the air and is the embodiment of lonely freedom. His presence among our tall buildings gives zest to otherwise drab surroundings. Pigeons and sparrows grow fat and numerous on easy living and we need not begrudge him an occasional one. He who shoots a duck hawk is callous to one of nature's most superb products. The discovery of the first duck hawk's nest on Chicago's ledges will be a great event, for it will mark a new life community in the heart of our city.

On warm summer evenings the harsh, buzzy calls of bull-bats are heard in the dark above the city streets. These are the nighthawks which skim and dip over the buildings through the night, scooping insects into their cavernous mouths. They nest on the flat roofs of apartments and office buildings which resemble the rocky pastures their ancestors chose. Florence Page Jaques describes how a pair raised their family on the roof of the Minnesota Museum of Natural History.² She and the staff were engrossed in watching the two nestlings fed and cared for on the coarse gravel without benefit of nest. Expert flyers, the adults are awkward on the roof-top, their bodies swaying from side to side as they walk on their weak feet. Nighthawks are not hawks at all but goatsuckers, related to the whip-poor-will, and, stranger still, to the hummingbird.

Everyone is familiar with the chimney swift, that tireless flyer in sooty black, a cigar body with crescent wings, darting and chattering across the sky. The chimney swift, as its name implies, has so completely adopted our chimneys for nesting and roosting that if we by chance find a colony in a rocky cave it seems strange.

On the shore front of Lake Michigan are ring-billed and herring gulls who like the city so well that some stay all year round. They live on the

¹"Bird of Heaven" by Virginia Eifert, *The Living Museum*, Illinois State Museum, February, 1947.

²"Nighthawks Make Pleasant Neighbors" — Florence Page Jaques — *Audubon Magazine*, November-December, 1946, page 330.

refuse that washes up along the shore and frequently fly far inland to garbage dumps on the edge of the city. They do not nest here, but on islands in the northern part of Lake Michigan and farther north.

In winter flocks of old-squaw and golden-eyes seek open water in the harbors of Lincoln Park. With them come the American and red-breasted mergansers which on their breeding grounds in the far north are exceedingly shy. Occasionally a white-winged scoter comes close into shore. The rest of the year he lives far out in the ocean and breeds on the arctic tundra. The open water and food supply of the city bring these northern birds as regular and friendly winter visitors.



CHICAGO ACADEMY OF SCIENCES PHOTO

Nighthawk

In the city parks and gardens and in the suburbs many birds which were once woods dwellers have taken up their homes. The brown thrasher and catbird love the tangled shrubbery in our back-yards and build their nests in the hedgerows. Lilacs bring the cardinal close to the house to nest. The wood thrush, a shy bird of the deep woods, now nests in vacant wooded lots, and his hymn-like notes can be heard of a summer evening in the heart of our villages. The Baltimore oriole has found our elm-lined streets much to his liking and is more common there than in the open country.

In our vegetable gardens the little house wren is almost completely domesticated. He takes over any rude box we hang out and makes himself the bustling proprietor of the garden. A house wren in the woods now seems a mistake. The tiny chipping sparrow also prefers gardens, barnyards and roadsides, and makes his horsehair lined nest in the honeysuckle

at our door. Of course the flower garden is a haven for the ruby-throated hummingbird and he will nest in the trumpet vine over your porch if you are lucky.

Orchards, the older and more neglected the better, are favorite places for bluebirds and rose-breasted grosbeaks. Barns and eaves of out-buildings are chosen nesting sites of barn and cliff swallows. Phoebes also use eaves but have taken over culverts and bridges as their especial haunts.

Plowed fields draw their particular birds. The horned lark is ever present there and nests in the furrows. In the spring even the kingbirds feed there in flocks.

Cut-over wood lots are favored places of towhees, yellow-breasted chats and prairie warblers. As the second growth grows into woods these birds leave. A bird club in New York was on the verge of buying such a cut-over area in order to preserve the yellow-breasted chat, one of our rarer warblers. Fortunately, the members consulted the National Audubon Society which told them they would have to set aside a fund to cut back the trees every few years to keep it scrubby. They decided not to buy the lot.

In the winter months so many people are now feeding birds at trays and stations around their homes that our winter birds are often more common in villages than in woods. During a snow storm there is constant activity around the trays. Downy woodpecker, chickadee and tufted titmouse, cardinal and junco, white-breasted nuthatch and even the rare red-breasted nuthatch fly back and forth.

Most of us have assumed that there were more birds when man settled in this country than to-day. While it is true man has destroyed vast flocks of certain birds, such as the passenger pigeon and prairie chicken, has cut down forests and drained swamps, yet, in the doing, he has made a greater variety of habitats than existed before. And each habitat has developed its own life community of birds, animals and plants. Richard H. Pough, on the research staff of the National Audubon Society, says, "It is probably safe to say that for every land bird that is less abundant to-day than it was when the pilgrims landed, five or six kinds are more abundant."³

³"Audubon Bird Guide" by Richard H. Pough — Doubleday & Co., 1946, Foreword XXVII.



Let's Face the Waterfowl Crisis*

By JOHN H. BAKER, *President*, National Audubon Society

THE NATIONAL AUDUBON SOCIETY advocates that the hunting of migratory waterfowl in North America be discontinued for a year, with the understanding that during that time basic revisions of management and regulation policies be worked out and adopted.

A year ago, publicity was given to our opinion that 1946 would be a year of acid test of the waterfowl hunting regulation formula. In view of the fact that the rising cycle of waterfowl population appeared to have ended

*From the March-April issue of "Audubon Magazine."

in 1944 and that a declining cycle was well under way, the Society recommended that the open hunting season be cut from 80 to 30 days, the bag limit from 10 to 5 ducks per day, and that the possession limit be made the same as the bag limit. Today, it appears to be widely recognized that these recommendations did not go far enough. The action taken by the federal government was to reduce the open season from 80 to 45 days, the bag limit from 10 to 7 ducks, and to leave the possession limit double the bag limit.

While the duck supply has been going down, the hunting pressure has been going up, as is impressively illustrated by the fact that the number of duck stamps sold during the past season reached an all-time high of approximately 2,000,000, or roughly 20 per cent more than in the preceding year. This is in line with the figures of increase of hunting pressure on all kinds of game for the year ending June 30 last, in which hunting license sales in the 48 states reached an all-time high of 9,854,313, or approximately 20 per cent more than in the preceding year. The license revenues of the 48 states increased more than 27 per cent to a high of \$19,805,444.

Trained game managers know that heavy take during the downtrend of a population cycle is disastrous, yet this is just what has been happening. The U. S. Fish and Wildlife Service, for years, has made an annual count just after the close of the hunting season, in January; these counts, though far from accurate as to totals, do indicate the trend. The figures of this winter's count have not yet been given out, but the duck-hunting fraternity throughout the nation well knows, from its own experience of the past hunting season, that the duck population is at a new low. They do not need to await the government release of the January count to find that out.

There is no historical precedent for the termination of a downward cycle in waterfowl population in as short a period as three years. There would therefore seem to be no need of awaiting word as to this spring's breeding-ground results before arriving at the conclusion that there are only two reasonable alternatives: (1) further drastic restrictions on allowed take, or (2) a temporary closing.

Now, whatever the differing beliefs may be as to the principal causes of decline, the fact remains that control of the kill by man is the only means we have of quickly contributing to the restoration of an adequate breeding stock. It is apparent that the carrying capacity of both breeding and wintering grounds far exceeds, at this time, the number of ducks alive to use them. Restoration of breeding and wintering grounds and the maintenance of refuges through expenditure of government or other funds, we highly commend and fully support, but such procedures alone will not suffice to meet the present emergency. Moreover, as experience has demonstrated that the regulation plan which has been in effect does not work well enough, it appears that mere further restrictions under it would not attain the necessary result.

The Society has always recognized the recreational value of field sports, legally pursued. It has never opposed hunting. It does believe in regulation of deliberate take such that there may be no net depletion in the breeding stock. In advocating at this time a halt in the kill and the working out

of basic revisions in management and regulation policies, the Society will have the definite support of a very considerable number of sportsmen. Men who, with eager anticipation, have looked forward each year to the waterfowl hunting season; to the tang of salt air on the open marsh, to frosty sunrises on prairie sloughs, to the whistling of ducks' wings overhead and the beauty of geese coming into the blind—these men realize that there must now be a closed season if they, their sons and their grandsons, are to enjoy in the future what has been to them a fascinating sport.

The plight of the waterfowl was one of the main points of discussion at the recent North American Wildlife Conference held in San Antonio. Reports from men with first hand experience on the breeding and wintering grounds were gloomy indeed.

Dr. Harrison F. Lewis, Superintendent of Wildlife Protection of the Canadian government, said:

"It must be obvious to all that, without an adequate increase in restrictions, duck-hunting on this continent will soon encompass its own destruction."

Dr. Aldo Leopold, in summing up the high spots of the conference, said, "I have attended this conference for 20 years, but this is the first session that ever was unanimous on waterfowl. Misfortune is a great leveler."

Albert Hochbaum of the Delta (Manitoba) Research Station, had many things to say that are well worth repeating to you; that, for example, a certain pothole in Manitoba is losing its breeding stock of ducks, not because it has become less attractive to waterfowl; nor because of crows; nor because of skunks; nor because of mink or hawks or jackfish or ground squirrels; nor because it needs more water or less water; nor because of fire or drought or grazing; nor even because "seven out of ten" are lost before they grow.

It is losing its breeding stock, he said, because there are not enough breeders to go around; that 1946 was the first year in which he found perfectly good breeding sloughs minus ducks, and that in some excellent marsh areas, little changed physically, the loss in breeding pairs was 80 per cent to 90 per cent of the 1945 population; that there were far less breeding pairs last year than in 1938, when waterfowl were in the early stages of their increase from the last duck "depression."

Now that the breeding areas are used as hunting grounds, the cropping is too early (in some areas as early as the middle of September) and the harvest is too efficient, resulting in "burned-out" marshes that are now, to use Dr. Leopold's phrase, "rapidly moving to the Arctic." This is particularly true where commercial shooting (where the hunter pays for the privilege of shooting and may rent guides and equipment) attracts numbers of gunners from far and wide.

On that Delta marsh, in 1946, despite the terrific drop in duck population, there was the heaviest kill on record. More red-heads, Hochbaum said, left for Chicago, St. Louis and points south in frozen packages than in migration. More than three-quarters of the local production of red-heads were killed on the opening day of hunting, and the season's kill was

three and a half times local production. On the opening day, the kill of canvas-backs exceeded local production, and the season's total kill was more than eleven times as great.

In the old days, the marshes were shot out by relatively few hunters who took large bags. Today they are shot out by many hunters whose kills are smaller but whose total bag is as big or bigger. In Hochbaum's opinion, the present type of regulation fosters a kind of shooting more deadly than market shooting. He suggests a restriction on the number of ducks that may be taken in one place in one day; he feels that the place as well as the bird must receive protection. He predicts that, no matter when the waterfowl recover from their present slump, or to what degree, a repeat decline is inevitable in a few years unless the "burning out" of breeding stocks be halted by the adoption of radical changes in management and regulation procedures; that, in the formulation of restrictions on the take, under existing policy, branches of the same old tree have been progressively chopped off, but that it is now time to cut the tree down and start a new plan.

Hunters are not the only interested group that will have to make sacrifices. If this situation is to be met and a cure effected there may have to be less maintenance and acquisition money for refuges; some reduction in the state license revenues; a reduction in the business of the many elements that cater to the waterfowl hunter. Whereas conservationists may deplore reduction in available monies for refuge acquisition and maintenance, they will recognize that the duck refuges have value only if there be ducks to occupy them. Whereas state fish and game or conservation departments may deplore loss of revenue from license sales to those who hunt only waterfowl and not other game, they will recognize that temporary sacrifices would be a small price for their own survival.

Let's go right on buying duck stamps during the year of a halt in the kill! Let's also encourage general public participation in the purchase of these stamps. No new legislation would be required. The refuge maintenance and enforcement programs financed by duck stamp money could be largely, if not wholly, continued. Let's call it the 1947 Duck Restoration Stamp. We believe that the number of conservation-minded citizens who cherish our North American waterfowl is considerable, and that the total sales of the stamps which they purchased would make an impressive figure.

The National Audubon Society would pledge itself to give wide promotion to the sale of such a Duck Restoration Stamp, and we feel confident that every conservation organization in this country and Canada would gladly give the same pledge.

And so, we repeat, the National Audubon Society advocates that the hunting of migratory waterfowl in North America be discontinued for a year, with the understanding that during that time basic revisions of management and regulation policies be worked out and adopted.

[Editorial note:—As Mr. Baker has stated in his article, the U. S. Fish and Wildlife Service makes a spring estimate, or "inventory" as they prefer to term it, of waterfowl, and his forecast of this season's conditions was

made before the result of that inventory was made public. That his quite alarming predictions were entirely justified is made certain by their report, recently completed, that the breeding stock of waterfowl has been reduced by 26,000,000 below the inventory of the previous year. That is a reduction of approximately one-third of the water-fowl of continental North America, and places some species in very great danger of being so reduced that their recovery is doubtful. Such a condition is of course due to several causes, but the one that can be controlled to any degree by our efforts is legalized shooting. We therefore strongly support Mr. Baker and the National Audubon Society in their plea for an entirely closed season for 1947.

This is of particular importance to Illinois and other states making up the Mississippi flyway. Forty-two per cent of all the duck stamps sold in the whole country last year were purchased in these states, and 37% of the ducks and geese reported killed were taken in this section, which is an indication of the heavy hunting pressure sustained by this one of the four recognized flyways. When you realize that this season's inventory shows the Mississippi flyway as receiving only 25% of all the waterfowl it is evident that this territory at least should have relief from shooting if the breeding stock is to be maintained for future years.]



Quiz on Ducks

Arranged by MRS. ANNA C. AMES

1. What duck, on account of the penetrating, vibrant, whistling sound made by its wings when in flight, is called "whistler" or "whistle-wing"?
2. Which of the ducks of North America has the widest breeding range?
3. Which of the ducks is of the most importance to man?
4. Which is the smallest of North American ducks?
5. Which of the ducks has the most spectacular of all duck courtship displays?
6. Which of the mergansers always builds its nest upon the ground?
7. Which is the least known, the rarest, and the least scoter-like of the three American scoters?
8. Which of the eiders is most frequently found south of its natural habitat?
9. Which is the only river and pond duck with white in the speculum?
10. Which is the most sagacious, wary, and wildest of all ducks?
11. Which of the ducks spends the winter farther south than is the case with any other North American duck?
12. Which of the ducks shows more white than any other pond duck?

Questions and answers of this quiz are based on information contained in F. K. Kortright's "The Ducks, Geese and Swans of North America." The answers will be found on page 16.

April at the Touhy Clay Pits

By ANNA C. AMES

ON APRIL FIRST there were a dozen golden-eye ducks on the water and ducks of this species were in evidence throughout the month in larger or smaller numbers. On the twenty-fourth but one pair was seen. Scaup ducks, one male and two females, were observed on April third. Then on April nineteenth, a decidedly cold day, there were fourteen or fifteen scaups swimming near the shore. On the twenty-fourth there were nine or ten scaups, only two or three of which were females. Red-breasted mergansers were first observed in this area on April nineteenth; there were five males close in. They raised themselves on their tails and flapped energetically. One might almost have supposed they were trying to get warm. By the twenty-fourth fourteen mergansers were present, only four or five of which were females. Throughout the month scaup ducks were seen frequently and always (except in the first instance), as was the case with the golden-eye ducks and the red-breasted merganser, the males predominated in numbers.

Blue-winged teal and mallards seem usually to arrive in pairs, already mated. Then the females disappear and the males are shy. Apparently the teal, if he thinks himself observed, takes quickly to cover. The male mallard suns himself or sleeps in some fairly inconspicuous spot.

Loons have been unusually abundant this year. On April first, the first time this year that the area was visited by this writer, but one loon was moving majestically about on the water. Then the numbers increased until on April twentieth nine of these magnificent birds were in full view. By the twenty-fourth these common loons had as companions two red-throated loons whose underparts were almost dazzlingly white in the sunshine.

It was almost the middle of the month when the coot arrived and his call did not sound across the waters until ten days later. The pied-billed grebe came a few days later than the coot and by the end of the month was still quite unobtrusive.

It was a surprise on April fifteenth to hear a Canada goose cackling and to see it feeding on a marshy bit of ground. It was still in the area on April twenty-ninth.

Someone has said that the air of the Touhy region is "always tremulous with the wings of gulls." There are usually a fairly good number of herring gulls there, but the Bonaparte gulls, though seen elsewhere in large numbers earlier, were not observed at the clay pit water until April twenty-fourth.

The trilling calls of three kingfishers were heard April first as they flashed about over the water. Then they disappeared from the area.

Male red-winged blackbirds with their brilliant epaulets filled the air with their cheery spring notes the first of the month and were joined a few days later by their prospective mates. Meanwhile crows cawed overhead and song sparrows made music everywhere. A few fox sparrows scratched

under the bushes. The irrepressible starlings and grackles were noisy as usual. The sneaking cowbirds put in their appearance also. A few robins were about and juncos were numerous. A lone phoebe caught early insects and several meadowlarks made melody.

As usual the killdeer arrived early, but none was seen in full mating display until the thirteenth. On the twenty-fourth a nest was located with a brave little female sitting upon it. When the nest was examined on April twenty-ninth it held its full complement of eggs.

One of the highlights of the month was the sight of two of the exquisite blue-gray gnatcatchers flitting and darting in and out of the leafless shrubbery at the end of Lunt Avenue.

The American bittern, first seen April twenty-fourth, perhaps deserves especial mention. As is his habit, he pointed his bill to the sky and stretched his long neck. Then, apparently realizing that he was observed, he poised for flight, took off heavily, and dropped out-of-sight among the tall brown cat-tail stalks. But occasionally up came his head to survey his chosen territory.

Other birds observed at the clay pits during April include swamp sparrows, tree sparrows, a chipping sparrow, tree swallows, barn swallows, purple martins, Wilson snipe, golden-crowned kinglets, ruby-crowned kinglets, flickers, sapsuckers, brown thrashers, green herons, myrtle warblers, and cardinals.



News from Quincy

A LETTER HAS BEEN RECEIVED from Dr. T. E. Musselman, of Quincy, Ill., with a Christmas census which was unfortunately too late to be included in the regular report. That he has been his normally active self, however, is shown in the schedule he gives for a single week in February. We know of no one in our Society who is doing more to interest and inform the public as to the value and beauty of our native birdlife than "T. E." He writes, "This week I have talked 'birds' before the Father & Son Banquet at the Methodist church, Beardstown; the assembly of Western Teachers' College; the assembly of Teachers' College High School; The Lions' Club Ladies night at Jacksonville, and one other high school assembly—all this added to a teacher's load of four morning classes."

Included in his census were some things that may not be unusual for him but would be definitely exciting to most of us. For instance, December 24 he listed 14 bald eagles, 12 of them seen at one time at Keokuk by Maurice Dadant of Hamilton. For Christmas Day, on 50 miles of road along Route 104 he lists 3 northern shrikes, 7 marsh hawks, 15 short-eared owls, 200 prairie horned larks, 35 Lapland longspurs (at new aviation field), 3 red-tailed hawks, 3 meadow larks (wintering), and one flock of 800 starlings.

His letter continues: "There are 100 or more red-headed woodpeckers and a half-dozen pileated woodpeckers wintering north of Beardstown. . . . There is a flock of 50 doves wintering at Loraine on the Poling farm. They eat at the cattle feeding troughs daily. . . . There has been a great drift of cardinals from the river bottoms. I have banded 52 cardinals since January 1. All have been captured in my brother's yard. . . . Yesterday (February 25) I saw two small flocks of bluebirds, six birds and four. The next south wind will bring them in by the hundreds. All boxes have been serviced and there are 1,000 units ready for them. Forty per cent of the boxes had white-footed mice nesting in them. The scourge of mice accounts for the drift of hundreds of short-eared owls which have returned to the prairies this year. It has been five years since we had a similar invasion of short-ears. Last week I counted 28 short-eared owls on the aviation field—all visible, flying or sitting on the ground. It was little short of marvelous."

Mr. Musselman's report of many bald eagles at Keokuk and Quincy is supported by a short item which appeared in a Cedar Rapids, Iowa, paper early in February. It read as follows: "Unusual concentrations of bald eagles, the bird of the national emblem, are reported at various locations along the Mississippi river. The birds, feeding on fish, are found below the nine-foot channel dams where the water remains open all winter. More than 30 of the great birds have been observed at Burlington. Large numbers of fish ducks in that area are regularly robbed of their catch by the eagles, which are less skillful as fishermen. Except for their (fish) taking ways, the eagles do not seem to harm the ducks."



The Wood Thrush

*When lillies by the river fill with sun,
And banks with clematis are overrun;
When winds are weighed with fern-sweet from the hill,
And hawks wheel in the noontide hot and still;
When thistle-tops are silvered every one,
And fly-lamps flicker ere the day is done,
Nature bethinks her how to crown these things,—
At twilight she decides: the wood thrush sings.*

—JOHN VANCE CHENEY



IF OUR POWERS of observation were quick and sure enough, no doubt we should see through most of the tricks of the sleight-of-hand man. * * * In the field of natural history, things escape us because the actors are small and the stage is very large and more or less veiled and obstructed. The movement is quick across a background that tends to conceal rather than expose it.—*John Burroughs.*

Birds—Just Birds

By MRS. J. BENTON SCHAUB*

EACH RETURNING AUTUMN brings the thought of what an ideal time winter is to become acquainted with some of our feathered friends. There aren't so many of them about then and our handout of sunflower seeds, suet, finely cut chickfeed, small grains, and bread crumbs is such a great help to them that they come to it again and again when they find we are faithful in keeping our bird shelf supplied.

I have been asked, usually by folks without a garden, why we should want to be interested in birds. My first reply is, "For the pure joy they bring into our lives through the medium of both sight and sound." Economically, I know that every gardener needs their help and that anything he can do to keep them in his vicinity adds to the joy he gets at the sight of healthier vegetation and foliage, and when scientists tell us that were it not for our bird population life as we know it would soon become extinct, we begin to sit up and take notice. The reasoning is something like this: The insect population multiplies so rapidly that without the control which the bird population gives the green of the vegetation would, in a very short time, be devoured. It is the chlorophyll in the green leaves that gives off the oxygen we breathe and takes out of our atmosphere the poisonous carbon dioxide and makes our atmosphere livable. Whether we wish it so or not we are, as yet, dependent for life itself upon the bird population of our globe. That sometimes makes an impression, but I still maintain that the beauty of the sight of birds and the sound of their voices is excuse enough for wanting them near, and I have never heard the complaint that anyone was sorry he knew any bird. It is a recreation worth cultivating for it grows in attraction through the years.

Birds that stay with us throughout the year are called permanent residents. Those that raise their families in our vicinity but migrate to another part of the country for three months or longer are our summer residents. Birds that raise their families elsewhere but come to spend three or more months with us we call winter visitors, and birds that pass through our part of the country as they journey from place to place are called migrants.

The last of the migrants are just passing through and today, October the twelfth, we looked out of our window and saw seven hermit thrushes turning over the leaves in our shallow pools to find some extra food as they bathed, and we stood wondering how they could manage to feel that a bath, with the cold raw wind blowing and the temperature around fifty, was so necessary. We hope they come our way again and we will again furnish them with soaked raisins to keep them sojourning with us for a few extra days; and with the passage of the last of the migrants we will find the permanent residents coming to us for additional help to enable them to endure our northern winters.

On the swinging sunflower feeder there will be the black-capped chicka-

*Contributed by Mrs. Schaub, Chairman of Ornithology for The Garden Club of Illinois, to "Garden Glories," the bulletin of that Society.

dee, singing for each bite of food he takes from the feeder, alighting only long enough to snatch a seed which he will carry to a nearby twig and hold in his feet while he cracks it open to get the kernel; the white-breasted nuthatch, carrying the seed to the trunk of a tree, where he will tuck it behind a piece of bark before he hatches it open to get the kernel; the blue jay, slipping in stealthily to fill his throat with seeds, then flying to some nearby log or limb where he will put them out in a row and hold them one at a time as does the chickadee; and the cardinal, who will stay right on the feeder until he has his fill. He belongs to the grosbeak family and he uses that beak of his to crush the shell, which he discards before he swallows the kernel. There was a time when the cardinal was not thought to be a resident bird in the northern part of Illinois, but as more and more bird lovers hung out suet and sunflower seeds they learned that he did not need to go farther south for the winter. All birds like beef suet, and our resident birds and winter visitors need it to supply heat for their bodies. The downy and hairy woodpeckers come for the suet only.

Before the last migrants have departed we will have some winter visitors at our feeding station. The purple finches and slate-colored juncos may come and hobnob with the English sparrows while they eat our chickfeed, a thing they would never think of doing in better weather. These are our regular boarders, but as the years come and go, almost every winter brings a rare bird or two that have not found it convenient to follow the usual pattern of bird life, and we find satisfaction in helping them until they are again able to become adjusted. Last year a northern flicker occupied an old grey squirrel house. When spring came he was a little dirty looking, but he had dined on our suet and bread crumbs and had weathered the storm. A pair of red-eyed towhees were caught in a November sleet storm. They came to us for chickfeed and suet and, finding our supply plentiful, remained with us for the entire winter, coming and going at regular intervals throughout the day until we were able to invite other bird enthusiasts in to see them. One year we watched a baby red-head change his head from black to red as he came to us day after day throughout the winter.

These are just a few of the joys that await you if you make of your garden a bird haven and do your own adventuring.



More on DDT and the Birds

IN LETTERS RECEIVED recently from Mr. Edward R. Ford are some comments on possible results of the widespread use of DDT. The long-term effect we of course do not yet know, but it is being quite definitely shown that at least temporarily birds abandon localities which have been treated with DDT. We quote Mr. Ford:

"I'd like to quote from a letter received from a friend in Ft. Lauderdale, Fla.: 'I certainly miss you . . . also the birds we had then. . . . The city did a lot of dusting (with DDT) . . . so today we have few birds left. . . . I have seen only one mockingbird this year in my yard or anywhere else. . . . I have read several pieces in the *Miami Herald* asking what had become of

the birds.' I think this is significant because my correspondent names the mockingbird specifically.

"Another correspondent in Coral Gables says that birds are scarce there and attributes it to DDT. This seems not quite as significant as birds in general are often scarce in Florida, especially in January—but not, I think, the mockingbird. When I recall that three years ago there were mockingbirds everywhere—even down town—I wonder what the exploitation of resort regions everywhere on the North American continent will lead to. But perhaps this is something the new generations are not troubled about."



Early Report on Lincoln Park Bird Walks

MISS DORIS PLAPP, who has for several seasons led the bird walks in Lincoln Park, accepted the responsibility again this year and, if the results of the first few early Sunday walks are continued, she will have plenty of reason for congratulation. She writes as follows:

"Perhaps it's news for the *Audubon Bulletin* that the two to arrive first in Lincoln Park for the bird walk on this Easter Sunday observed a yellow-crowned night heron. The identification was unmistakable. We both had binoculars. We saw clearly the dark gray underparts, black head, light crown and white stripe on the side of the head. According to my "Birds of the Chicago Region" (May, 1934) it has not been reported since 1918. In spite of the very strong wind and dark skies (We all remember Easter morning), we saw 36 species this morning. A total of five observers reported. They were Joseph F. Healy, Marion Wolf, Mildred Wolf, William Baasel and myself. Marsh hawks seemed to be on migration but headed southward—possibly unduly influenced by yesterday's high temperature. Hermit thrushes, sapsuckers, both kinglets, phoebes, flickers and killdeer, song, vesper, tree and fox sparrows and juncos were in good numbers. Tree and bank swallows were seen. One Canada goose, feathers out of each wing, may have been unable to keep up with his flock. The usual winter ducks were still present.

"We have now had three of the nine trips scheduled and they have all been good trips. Twenty-three birds for March 23; a gorgeous clear sunny day, no wind, crisp air on March 30. We saw a horned grebe, four redpolls, and the gulls soaring high in the clear blue sky, a beautiful sight—20 birds in all on that day. Kingfishers have been seen on the last two trips. Forty-eight species is the sum total for the first three walks."



ANSWERS TO DUCK QUIZ

- | | |
|----------------------------|-----------------------|
| 1. American Golden-eye. | 7. American Scoter. |
| 2. American Pintail. | 8. King Eider. |
| 3. Mallard. | 9. Gadwall. |
| 4. Green-winged Teal. | 10. Black Duck. |
| 5. Ruddy Duck. | 11. Blue-winged Teal. |
| 6. Red-breasted Merganser. | 12. Shoveller. |

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

ACTIVE MEMBERS	\$2.00 annually
CONTRIBUTING MEMBERS.....	\$5.00 annually
SUSTAINING MEMBERS.....	\$25.00
LIFE MEMBERS	\$100.00

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Bird Notes on a Florida Key

By HARRY R. SMITH

CABBAGE KEY, or Palmetto Island, as it is designated on the Government Charts, is one of the many islands in Pine Island Sound immediately south of Charlotte Harbor on the west coast of Florida. It is reached by a six-mile boat trip from Boca Grande on Gasparilla Island, or by sea plane from Punta Gorda or Ft. Myers on the mainland.



Sand Spur at Cabbage Key

When Mrs. Smith and I arrived at Cabbage Key on Easter Sunday we were more fortunate than the average Florida vacationists, for the island is owned by Mr. and Mrs. Elwin Stults, who had been our good friends and close neighbors in Evanston for many years. Furthermore, the spacious inn they operate, originally built and beautifully furnished as a private dwelling, is their year-round home.

The key is very irregular in shape, and comprises about 110 acres.

Most of it is covered with dense mangrove, but unlike the other flat mangrove islands in the vicinity, there are cabbage and coconut palms, orange and other citrus fruit trees growing on this island, and the portion where the main building is located has an elevation of over 25 feet.

Mr. and Mrs. Stults, or Larry and Jan, as they are known to most of their guests, lost no time in making good their promise to show us birds we rarely or never see at home. After dinner, Larry took us in a canoe to see a bald eagle nest. It was in a dead tree above the mangroves on Middle Island, a small key about a half-mile to the north. Since the tree was almost at the shore line, we had an excellent view of the pair of eaglets at close range. They were leaping into the air from the edge of the nest, and flapping their great wings in preparation for the future when they would be soaring a mile above the vast expanse of water and islands.

As we started back, long "trains" of brown pelicans came sailing in from the west to their rookery on Bird Island. Larry referred to the first flight as the "arrival of the 6:15," and as we were arriving home, in the distance we could see what we decided was "the 6:45."

Monday, April 7. — This morning I saw the first bird that was new to me. Two pairs of eastern ground doves were feeding about the edges of the lawn near the house. They were very unsuspicious little fellows and permitted me to approach within ten yards.

While eating breakfast on the porch, I had noticed many warblers about the bushes in the patio and in the palm trees. It was amazing to discover later that they were all of one species, and, equally astonishing to me, that species was the prairie warbler. Although Howell in "Florida Bird Life" refers to the Florida warbler as a common bird of the keys, I was not prepared to see it in such numbers. I observed three birds with definite chestnut markings on the back, which is less pronounced, or absent, in the Florida race; hence I presume some members of the northern race are present. Even so, with the thousands of warblers that must be migrating along the coast at this time, why are none of the other species stopping on this island?

Tuesday, April 8. — While three red-bellied woodpeckers were "a fightin' and a feudin'" over a nesting hole in a cabbage palm, I watched a pair of ospreys fishing in the sound. It is a spectacular sight to see them pause in their flight and plunge straight down below the surface of the water. Incidentally, they miss plenty of strikes just as other fishermen do. Apparently, they caught only four fish out of eleven attempts.

The *Sand Spur* is the sturdy boat that performs the same duties as the family car, and the truck on a farm, and today we all piled aboard to "go into town." Barring the possibility of receiving mail, no one was really interested in town (Boca Grande), but every one liked the idea of the boat ride in the sunshine and the salt breeze.

This evening high in the sky I saw eight man-o'-war birds sailing toward the mainland. I watched them through my glasses until they were out of sight, and at no time did any one of them flap a wing. It

was one of the most stirring sights of bird flight I have ever witnessed.

Wednesday, April 9. — After packing a lunch, a party of us went in a skiff to Cayo Costa Island to gather shells. I was delighted at the opportunity to go shelling, but I also thought of birds and took my binoculars along.

We had gone only a quarter of a mile when I saw three shore birds on an oyster bar. While we were nearly one hundred yards away, I recognized them as black-necked stilts. It was a disturbing thought that they might leave before we were reasonably close to them, but our skipper cut down the motor, and I had an excellent view of them before they flew. They are the most striking shore birds I have ever seen. The under parts are pure white. The upper parts of the head and neck and the entire back is black, supposedly with a greenish cast, although it appeared solid black to me. The size is about the same as that of the greater yellow-legs, but I believe the legs of the stilts, which were a coral pink, are longer.



Bald Eagle and Nest

Cayo Costa is a long narrow strip of an island with its western shore line extending eight or ten miles along the gulf. Mooring the skiff on the eastern shore, which is a solid growth of mangrove, we walked through a path only a couple of hundred feet to the west. Then unexpectedly we were on a beach embracing miles of white glistening sand and shells, with the waves rolling in from the Gulf of Mexico. After taking a swim, we gathered shells. Sanibel Island, which is only twenty miles south, is reputed to have the best beach in the world for shell collectors, but I was

bewildered at the infinite combinations of size, shape and color among the shells on this beach.

As we were preparing to leave, I caught the movement of a small bird in the distance. I walked to the spot where I had seen it, and was about to turn back, believing it had gone, when I was startled to see it standing quietly almost at my feet. The glare of the bright sunlight on the white sand and the light color of the bird had given it the same protection in the open that the brown woodcock has while probing among dead leaves in deep shadows.

I was trying to identify my discovery as a semipalmated or piping plover, but its color was much lighter than either. Furthermore, the bill was long and entirely black and there was no neck band. Then I recalled one of the tips a friend had given me was to watch for the Cuban snowy plover — and that was my bird.

On the return trip, I saw a Wilson's plover and six Louisiana herons. These made a total of four birds in one day that I had not seen before.

Thursday, April 10. — For the past three nights a chuck-will's-widow has been calling from outside my bedroom window. It is not always possible to see it, but it sits on a lawn chair or on the grass below and calls, not "*chuck-will's-widow*," but "*chuck-will-will*" with such a strong accent on the vowel of the second "will" that it is slurred into two syllables. Last night the song began in the usual deliberate, regular tempo. I looked out of my darkened window just as another bird flew into the moonlight near the chair, and immediately the timing of the call doubled, which made it very rapid. I was curious as to whether this was caused by a male intruder or the presence of the female. A short time later, I could hear "*will-will*" in the distance. The opening "*chuck*" is not audible unless the bird is reasonably close.

This morning I went with Joe in the school boat, which corresponds to the school bus in rural communities. Joe picks up Taylor Stults and other children to take them to school on a neighboring island, returning to work on the boats or about the yard until school is out in the evening.

On this trip I saw the biggest flock of man-o'-war birds to date: about 50. Some were low enough for the orange gular sacks to be visible. I was hopeful that at least one of the birds would dive to the surface of the water to feed, but they continued to soar, though for the first time I saw one of them make two barely perceptible flaps of its great wings.

Although these birds are no larger than a cormorant, the wing spread, according to Howell, is greater than that of the bald eagle, which is six to seven and one-half feet, while the man-o'-war hawks, as the fishermen call them, have a spread of seven to eight feet. He also says: "their flight is perhaps the most marvelous example of perfect adjustment to aerial conditions in the bird world." As a matter of fact, it is difficult to conceive voluntary movement in the animal kingdom executed with less effort. It is interesting to watch the tail in flight. One moment it is deeply forked like that of an swallow-tailed kite, and then like trick photography in motion pictures, it becomes long and pointed.

On the return trip I took pictures of Bird Island, which was literally covered with pelicans and cormorants. I also attempted a snapshot of the eagles on the nest, but missed them.

Friday, April 11. — This morning, the channel marker at the boat house was occupied by a pair of dainty least terns. The male was uttering a shrill scream, or squeal, as he offered the female a minnow. She was playing indifference and would not accept it, though I saw that she ate it when he left, apparently to search for a larger or sweeter morsel.

I explained to my wife that this was a courtship performance and that the female, like a woman, was just being coy, to which she replied: "and isn't the male just like a man in making such a fool of himself?"

Today we went to the oyster bar to get oysters; there was a wide difference of opinion as to whether we gathered, dug or picked them. I fear I was not very helpful as I continually grabbed clumps of shells containing more barnacles than oysters. Although they were plentiful, it took four of us (with two "supervisors") nearly an hour to dig and shell three pints. If you have felt that oysters are expensive, let me assure you that regardless of what you pay when next you eat them, it is not enough. However, we had lots of fun and a delicious feast at dinner.

Saturday, April 12. — My daily efforts to find the source of an unfamiliar raucous call have finally been successful. The sound was coming from the mangroves where two fish crows had just descended. Presently one flew up to a dead limb and obliged me with his terrible vocal efforts for several minutes. The call has only two notes: a loud staccato "*wah ha*," with the accent on the first note and the timbre quite different from the caw of the common crow.

There are a few palm warblers about, but the prairie warblers continue to be the dominant bird of the islands. They are in numbers that could almost be regarded as loose flocks. I saw at least twelve in a live oak tree at one time.

The permanent residents refer to the white ibis as a curlew and assure me that it is not uncommon on the keys. This unquestionably is true, but I have not yet had the good fortune to observe it. For that reason I came over to the mainland this afternoon as I hope to see it, as well as the wood ibis and some other birds I have not found on the keys.

Sunday, April 13. — Last night I stayed at Ft. Myers in a hotel at the edge of town, where I was awakened this morning by a regular chorus of mockingbirds. There were probably not more than three, but it sounded as though a dozen birds were singing. To me, the brown thrasher has a finer song, as all of its notes are musical, but the mocker certainly has a wide repertoire.

There are so many references to Royal Palm Hammock in the literature of Florida ornithology that I took a bus down the Tamiami Trail to that point. It was a most disappointing trip, as a pair of snowy egrets were the only unusual birds I saw.

Monday, April 14. — Early this morning, I left Punta Gorda in the "run boat" to return to Cabbage Key. This boat delivers ice and gas to

several fish houses and picks up the catch of the commercial fishermen. It was a fine morning and I enjoyed the trip down the great^{est} expanse of Charlotte Harbor.

The pelicans are apparently aware that the shortest distance between two points is a straight line, but it is rarely the course of a boat in the harbor or adjoining sounds. Even in a skiff with a draft of only a couple of feet or less, the pilot usually follows (to me invisible) channels. This system of continually changing course applied to the "run boat" even though there were no apparent obstructions for miles in any direction.

The conversation of the skipper and engineer, both of whom have been on the boat for years, was most interesting and instructive. They patiently answered the hundred landlubber questions I asked them. Most of these concerned boats or sea life, particularly sharks and porpoise. We saw



Pelicans on Bird Island

several schools of the latter, always entertaining as they follow closely along the side of a moving boat, which they frequently do.

Tuesday, April 15. — A definite change has taken place in the relationship between the least terns on the channel post. Most of the screaming is now done by the female, while the male is working feverishly to feed her. When he brings her a fish, she brazenly grabs it and scarcely swallows it before she begins screaming for more. What a difference after four days of courtship!

This date will be remembered as the day Peter Cooper walked, or attempted to walk, on the water. Peter is the 11 year old son of Mr.

and Mrs. Charles Cooper of Woodstock, N. Y., to whom I am indebted for the pictures accompanying these notes. This morning at breakfast when he objected to his milk, his older sister wisely explained that there was nothing wrong with it and that he should have faith in its being good and wholesome. With faith, she told him, anything could be accomplished, even to walking on the water. Whereupon Peter went down to the boat house and stepped off into seven feet of water. Although he had not compromised by removing any of his clothing, he promptly went down and had to swim to the ladder. He was noncommittal about the episode, so I am not quite sure whether he was disillusioned or regarded it as proof that his sister Nancy was wrong.

Wednesday, April 14. — Nearly every day I spend some time on the water tower, from where I watch bird life over all of this island and parts of others nearby. My main interest today was a pair of pileated woodpeckers which I believe were preparing to nest, and how I should like to have a close-up picture of the eagles' nest as I saw it through my binoculars! The two young birds were standing on the nest with the parents on a limb at either side and the whole family facing me.

Along the shore of the deep coves I observed large numbers of herons with the little blues predominating. By making several counts, I verified what seemed apparent, that well over half of these are in the immature white plumage. The reasons for this condition and its implications should make an interesting subject for investigation and discussion in a bird club.

When I left the water tower I saw a cuckoo. Casually, I looked to see whether it was the yellow or black-billed species. My good fortune was undeserved because of my unmethodic and careless observation, but to my great surprise I saw that the under parts were a light cinnamon color, and I added the Maynard's cuckoo to my life list.

Thursday, April 15. — Larry had to go over to Bokelia in the *Sand Spur* for bottled gas and I tagged along. This little settlement is on the northern tip of Pine Island, which is close to the mainland and extends southward from Charlotte Harbor to the mouth of the Caloosahatchee River. I had thought this should be an excellent point to observe migrant warblers, but, with the exception of a single prothonotary, I saw only prairie and yellow or western palm warblers.

The gray kingbird, which was new to me, was common, as was also the black-whiskered vireo. The latter is similar to the red-eyed vireo, but has blackish streaks at the sides of the throat, which give the bird its name. It was singing in the mangroves everywhere I went.

Because of the intensity of the sunshine here, colors often appear deceptive. When we were leaving Bokelia, I was mistaken in thinking a single file of three brown pelicans were the white species. This had happened several times in the past, on each occasion the bright sunlight making the birds appear white for several seconds until the angle of reflection had changed.

One day last week I was deceived by a similar experience that was really dramatic. Two adjoining channel markers had been occupied by a

pair of royal terns, and as I looked to see if they were there, I was amazed to see what appeared to be a tern with a vivid reddish orange breast. Excitedly I tried to recall some unfamiliar tropic bird, but as I reached for my binoculars it moved its head, and there was my royal tern. The illusion, of course, was due to the reflection of brilliant sunlight on the orange bill.

Friday, April 16. — My lack of botanical knowledge is often a source of regret and nearly every day I am conscious of it here. One of the few flowers I know is the hibiscus. There are six or eight beautiful colors and they grow profusely. We have them in fresh bouquets on the table at nearly every meal. The most unusual tree I have seen is a grappling fig. It is perhaps 25 feet high with wide spreading limbs, and the trunk has completely encased a cabbage palm with the exception of about five feet at the top. Consequently, the palm fronds seem to be growing in the tip of the fig tree. The most colorful tree, however, is called the tree of gold. Regardless of its proper botanical name, when the sun shines upon it, it has the appearance of a huge ball of gold.

The hours spent at the boat house, like those on the water tower, always bring rewards. As I sat there this afternoon I was surprised to see a Ward's heron fishing in the sound half-way between our beach and Useppa Island, which is nearly a mile away. Even at low tide it is difficult to understand how such large bodies of water can be so shallow.

Turning towards the shore, I watched the solid masses of little fiddler crabs. When thousands of them scurried along in the same direction, it seemed as if a whole section of the beach were moving.

Saturday, April 19. — This morning, after taking my last view from the water tower, Mr. Cooper and I went in the skiff for additional pictures of the eagles' nest. When we returned, I took more pictures on the island; pictures of anything that would help us keep fresh the memories of these happy days with pleasant companions.

With definite lack of enthusiasm, we boarded the boat to start homeward. Boca Grande is north but the *Sand Spur*, as always, started out in the channel to the south, turned east and doubled back to the north. Then we had our last view of Cabbage Key across the sound.

As I watched the dark green mangroves along the shore line and the graceful palms waving above them, it occurred to me that they are both symbols of the island. The mangroves constitute a symbol of the physical island, with everything organic, on or about it — a symbol of barnacles and fiddler crabs, fish crows and herons, cormorants and pelicans. The palm trees symbolize the island as a way of life — a way of life so different from that to which we are returning.



SOME PEOPLE seem born with eyes in their heads, and others with buttons or painted marbles, and no amount of science can make the one equal to the other in the art of seeing things.—*John Burroughs*.

Chicagoans at a Michigan Campout

By MRS. DOROTHY E. HOLMES

PICTURE A LONG CCC camp mess hall with a group of campers at each table busily preparing a meal and you will feel a part of the Michigan Audubon Campout at Camp Ocqueoc near Onaway.

Camp Ocqueoc is located on Lake Ocqueoc and its outlet which flows to Lake Huron about three miles away. The lake is a little over a mile long, so even the inexperienced could enjoy the boats which were available, and several brought their own canoes. The area was cut over many years ago and a second growth of alders, birches, aspen, and evergreens provides cover and nesting opportunities for a variety of birds.

We discovered early that food and equipment were necessary to sustain birding at this campout. Most of the campers had been on similar trips and, for one interested in camping, here was an opportunity to observe what can be done on anything from pocket-size gasoline stoves to the three enormous army ranges of the mess hall.

It was through the interest and membership of Mrs. Amy Baldwin that Miss Leona Draheim, Dr. Holmes, and I attended this meeting on May 30 and 31 and June 1, 1947. Through the collaboration of all four this material is presented.

Time passed quickly on our drive the length of Michigan. In spite of the intermittent rain and snow we enjoyed a flower display such as could scarcely be hoped for as late as a Memorial Day outing. In Indiana the dogwood accompanied the redbud and blue lupine. Farther north these were displaced by the shadblow, with a profusion of showy trillium in the woods and marsh marigold in the wet ditches along the road. The famous peach and cherry orchards were at their loveliest, but a prediction of a killing frost mixed apprehension with our enjoyment. At Holland, Michigan, the tulips were in bud on our way up and at their best on our return — fine for us but far too late for Holland's annual celebration.

Our compensation for being among the first arrivals at camp buildings which still held all the cold of a Michigan winter was in securing individual rooms in the Administration Building, where the pot-bellied stoves had more effect than in the dormitories where rows of cots reached an appalling length. By the next morning the mess hall was warm, and after that the weather changed and we had three beautiful days for our outing and a wonderful return trip along Lake Michigan's eastern shore.

The first morning Miss Draheim started off with an unusual observation for that area, three turkey vultures. Our first sight of deer — two on the far bank of the lake. The group outing took us to Ocqueoc Falls where we found Canada warblers and many redstarts. At the falls Mrs. Baldwin gathered many mushrooms which she claimed were an unusually fine edible species. Not being experts, we heard this with skepticism and after considerable discussion decided to let "Baldy" eat them. If she were still alive twenty-four hours later we would have some too. Mrs. Baldwin is still with us.

That afternoon found us on a trip to Black Lake in special quest of warblers. Large numbers of nighthawks over a marshy area put on an acrobatic display. An injured American golden-eye was retrieved by a solicitous boy. One group made a circle through Onaway State Park searching for warblers. A fossil hunt along the lake was another diversion. Petoskey coral is the characteristic formation of this region and several unusual specimens were collected. A tiny red-backed salamander was found in a rotten log. We delayed our arrival back at camp at dusk to listen to the evening concert of the thrushes in a sparse evergreen wood. The singers were too wary to be seen. In the sandy soil, in company with trailing arbutus and sweet fern, an orchid was in bud. Two days later we were disappointed that it had not yet opened but we could be sure it would be a yellow lady's slipper. Ordinarily the orchids would have been in bloom at this date.

On Saturday morning a 6:00 A.M. bird trip revealed a good representation of the common warblers with Tennessee warblers dominant. The main wave of migration had moved northward and birds that had left the Chicago region were still abundant there. Many of these would be residents in this area.

After a hearty breakfast our group scouted around the lake on our own. The most exciting find was five woodcock. The three young were seen running with wings raised high above their bodies but did not try flight. We were delighted with the flowers, particularly with fringed purple polygala, the rare white polygala, gold thread, marsh marigold, and tiny violets of both yellow and blue.

That afternoon on a trip to Lake Huron shore birds were seen. A spectacular flight of hawks showed a predominance of broad-wings, with ospreys, pigeon, marsh, red-tailed, and Cooper's included. The estimate was a hundred seen in two hours.

One stop was to see the experimental traps being prepared for lamprey eels. The eels were not running yet because the water was still too cold.

A deer hunt in the evening turned out to be a twilight walk.

The evening meetings in the mess hall were a review and comparison of the day's experiences. The first evening Homer Roberts taxed his knowledge of Michigan geography by placing on a wall map a flag for each town represented at the campout. Chicago's flag was well off the prepared map. The flag for a visitor from Chile was placed at the floor.

The second evening colored slides of birds and wild flowers were shown and a film by the county agent showed a campout of boys the preceding summer and their instruction in conservation. This summer a girls' camp will also be held.

The mess hall was the focus of each day's meetings and visiting around was enlivened by such loot as a grass snake, a red-bellied snake, a milk snake, and a beautiful tree toad. One evening as we left the mess hall the northern lights shot white banners across the sky.

A review of the day's findings was especially valuable at this campout because these observations would begin the compilation of a bird list for

this area. Up to Saturday evening one hundred and thirty-five species had been listed. In our own group ninety-four was the greatest number recorded. No birds were listed which would not be seen in the Chicago area. The pileated woodpecker was heard drilling and grouse were heard drumming. The bald eagle was seen three times. The camp superintendent would scarcely believe this and several other claims made to him. He was sure he would be more observant of the birds around camp after this visit of the Audubon group.

On Sunday after breakfast our group suddenly found ourselves in possession of the whole camp. A picture had been taken and good-byes had been said. We decided on a boat trip and a short hike to the beaver dam. Here several acres of gray, drowned trees made a place of unexpected solemn beauty. Kingfishers, bronze grackles, tree swallows, and a female hooded merganser were at home there, but one had the feeling that more birds would repay a longer stay.

That evening another boat trip on the lake made an idyllic end to our outing. The whip-poor-wills and veerys called; a heron glided through the sunset colors; a beaver swam through the reflection of the sky on the water. At sunrise two deer watched us from the side of the highway; a heron posed like a weather vane for tourists on the tip of a tall pine; a porcupine was seen reaching for the buds of a small shrub. Then the long stretch home.

Would it be a good idea for the Illinois Audubon Society to have an annual outing? We were impressed that Michigan members from all over the state had become well acquainted because of these campouts.



An Early Chicago Bird List

THE EARLIEST BIRD LIST for the Chicago region that we have so far seen is one entitled "A finding list of sixty common birds, prepared for the Cook County Teachers' Association, April 9, 1898, by Frank E. Sandford, Supt. Schools, LaGrange, Ill." Does anyone know of anything earlier? It does not profess to be a complete list for the region and gives only those "common" to this locality. Here is his list.

I. SIZE OF AN ENGLISH SPARROW OR SMALLER.

1. ENGLISH SPARROW. Abundant everywhere about houses, in flocks; permanent resident. Known by the *large* black throat-patch of the males. The breast is *not striped*. A scavenger and pugilist.

2. SONG SPARROW. Common about gardens, lawns and orchards, March to October. Known by its sweet song; *striped breast*; and *small* black throat-patch.

3. HOUSE CHIPPY. CHIPPING SPARROW. Common about houses, April 10 to October. Known by its "chipping" song, chestnut crown, pure gray breast and size (smallest of the sparrows).

4. GRASS SPARROW. VESPER SPARROW. Frequent in grass fields and along roadsides, April 10 to October. Known by its *white outer tail-feathers* and *brownish streaked back*.

5. WHITE-THROATED SPARROW. Common, often abundant, in gardens and about lawns and orchards, in flocks, April 15 to May 15, and again in September. Known by its soft, plaintive whistle and its *white throat-patch* and striped crown.

6. SNOWBIRD. JUNCO. Abundant about lawns, gardens and fields, in flocks, in March, April and October; occasional in winter. Known by the *white outer tail-feather* and *slate-colored back and breast*.

7. INDIGO BIRD. Frequent in trees about houses and fields, April 30 to September. Whole bird a *bright indigo-blue*, which often looks black against the clear sky.

8. GOLDFINCH. WILD CANARY. Frequent in fields and gardens, April 25 to October. Known by its bright yellow color, with *black cap and wings*. Occasional in winter in dark plumage.

9. YELLOW WARBLER. YELLOW BIRD. Frequent in trees about houses, orchards and open woods, May to September. Whole bird a bright yellow. Compare with the Goldfinch in coloring, shape of bill and feeding habits. This is one of a large family of active, bright-colored little birds that fill the trees and shrubbery of lawn, garden and orchard during the first two weeks of May and last two weeks of September. A good observer may find twenty-five species of warblers in a season. Their usefulness in ridding tender tree-buds of harmful insects cannot be estimated.

10. BLACK AND WHITE WARBLER. Frequent in trees about lawns and orchards, May to September. Known by its black and white stripes running lengthwise of the body, and its habit of *creeping about tree trunks* like a nuthatch.

11. OVENBIRD. GOLDEN-CROWNED THRUSH. Frequent on the ground about gardens and bushy lawns, in May and September. Known by its spotted breast (like a thrush), its amusing habit of *walking*, and its loud song, "*teacher, TEACHER, TEACHER.*"

12. WARBLING VIREO. Frequent in trees of lawns everywhere, May to September. Known best by its song, a pleasing warble of eight or ten notes given at intervals of two or three minutes during the whole day. One of the few birds that sings all summer.

13. BROWN CREEPER. Frequent on tree trunks in woods and about houses, in March, April, September and October; occasional in winter. Known by its persistent habit of creeping up tree trunks, by its slender bill, and *brownish back*.

14. NUTHATCH. BLUE SAP-SUCKER. Frequent on tree trunks or limbs, in woods and about houses, in March, April, September and October, occasional in winter and summer. Known by the habit of creeping about the limbs and trunks of trees, often hanging *head down* and by the *blue back* with dark crown.

15. CHICKADEE. Frequent in trees of woods and lawns, in flocks; in March, April, September and October; occasional in winter. Known by its "*Chickadee-dee-dee*" note, and gray plumage with *black crown and throat*.

16. GOLD-CRESTED KINGLET. A tiny bird, frequent in trees and shrubs of lawn and field, in March, April and October, occasional in winter. Known by the bright yellow crown-stripe bordered with black.

17. RUBY-CRESTED KINGLET. Frequent in trees and bushes of lawn and field, in April and October. May be known by the fiery red crown, which, however, is often concealed. The white eye-ring and wing bars, and its frequent habit of fluttering, like a humming bird, when feeding, also distinguish it. A pleasing singer.

18. HOUSE WREN. Frequent about houses and barns, April 20 to October. Known by its loud rapid song, its brownish striped plumage and pert appearance.

19. WINTER WREN. WOOD WREN. Frequent about wood piles, along streams and in fallen trees in the woods, from October to April. Known by its wren-like appearance and movements, and its amusing habit of ducking the body when watching an intruder.

20. DOWNY WOODPECKER. Little Black and White Woodpecker. Frequent permanent resident in orchards and about houses in spring, fall and winter; in woods during summer. Known by its habit of pecking holes in trees, the black and white striped back, and its size (smallest of the woodpeckers).

21. CHIMNEY SWIFT. CHIMNEY "SWALLOW." Common, often abundant, flying about over houses, April 25 to October. Known by its swallow-like habit of flying in irregular circles, but distinguished from true swallows by its chattering note when flying, and its longer, more slender wings. Rests and nests in chimneys.

22. HUMMING BIRD. Frequent about flower beds and gardens, May 5 to September. Known by the humming noise of its wings; its swift, dashing flight; and habit of feeding among flowers. Our smallest bird.

II. LARGER THAN AN ENGLISH SPARROW, SMALLER THAN A ROBIN.

23. BLUEBIRD. Frequent about orchards and roadsides from March to October. Known by the blue back and rusty colored breast. Not so often seen as formerly.

24. CATBIRD. Common in shrubbery about gardens, along wooded streams, and in low thickets, April 20 to September. Known by its catlike note and slate-colored plumage.

25. ORIOLE. BALTIMORE ORIOLE. Common in trees about houses, April 30 to September. Known by the loud characteristic whistle, and the black and orange coloring.

26. BOBOLINK. Abundant in the grass of meadows, May 5 to September. Known by its rollicking song, and black and cream plumage of the male.

27. PRAIRIE HORNED LARK. Common in country roads and in fields, throughout the year. Known by its habit of running and feeding in the road, its black throat-ring, and general gray-brown coloring.

28. DICK CISSEL. LITTLE MEADOW LARK. Common in fields and in trees

along country roadsides, May 1 to September. Known by its persistent song—"See, see, Dick, Dick, Cissel, Cissel," and its yellowish breast with black throat-patch (like Meadow Lark's, but duller).

29. REDWINGED BLACKBIRD. Common in swampy places, March to October. Known by the black plumage with bright *red wing-patch*.

30. SCARLET TANAGER. Occasional in trees about orchards and fields, May 5 to September. Known by the brilliant *scarlet plumage* with black wings.

31. ROSE-BREASTED GROSBEAK. Frequent in trees about orchards and lawns, May 1 to September. Known by the thick bill, black and white back, and white breast inclosing a patch of rose-color. Female brownish, striped with black.

32. CHEWINK. GROUND ROBIN. Frequent in shrubbery, gardens and thickets, on the ground or near it, April 10 to September. Known by its metallic "*Chewink*" note, and the dark back, white breast and *the robin-red coloring of the sides*.

33. RED-HEADED WOODPECKER. Frequent on trees in orchards and open woods, May 1 to October. Known by the bright crimson covering of the entire head and neck, and large white patch on the back.

34. SAPSUCKER. YELLOW-BREASTED WOODPECKER. Common in trees of lawn and wood about April 10 and September 20 for a few days. Known by the long white stripe on the wing and red throat-patch of the male.

35. KINGBIRD. BEE MARTIN. Common about open fields, May 1 to September. Known by its prominent crest, black plumage and white tip of the tail. Note, a harsh twitter. A "fly-catcher," *i.e.*, feeds by diving from its perch and catching insects in the air. Often seen attacking crows and hawks on the wing.

36. PHOEBE. Frequent about houses and open woods, April 1 to September. Known by its flycatcher habits of feeding, dark plumage, *black bill*, and "*phoebe*" note.

37. WOOD PEWEE. Frequent in woods and orchards, April to September. Known by its flycatcher habits, *reddish bill*, and mournful "*pee-a-wee*" note.

38. SWALLOW. Two kinds of swallows are often seen about barns—the Barn Swallow, with long forked tail; and the Eave Swallow, with short, square tail. Both are blue-black above, with reddish markings about the head, and feed on insects caught while circling through the air.

39. PURPLE MARTIN. Occasional about barns and in bird-houses, May to September. Looks and acts like a large swallow, but distinguished by its entire blue-black color.

40. WOOD THRUSH. SONG THRUSH. Frequent in orchards, thickets and shady woods, April 25 to September. Known by its pleasing, flute-like whistle, "*thrush breast*," (white spotted with black), and chestnut shoulders.

41. HERMIT THRUSH. Common in April and October about gardens and lawns. Known by the "*thrush breast*," olive green back, and chestnut red on the tail. Earliest of the thrushes to appear in the spring. Does not sing here.

42. FOX SPARROW. Common in April and October in gardens and hedge rows. Largest of the sparrows. Reddish or fox-colored with a black and white spotted breast. A beautiful singer.

43. CEDAR BIRD. Frequent in trees, April to October, always in flocks. A dark brown bird with a prominent crest and black bill.

44. SCREECH OWL. LITTLE HORNED OWL. Occasional in trees of lawn and field, throughout the year. More often heard than seen. Note, a quavering whine.

III. SIZE OF A ROBIN OR LARGER.

45. ROBIN. Common everywhere about houses, March to November. Known by its "*cheer up*" song and red breast.

46. BLUE JAY. Very common about houses and woods; permanent resident. Known by the size, prominent crest, and light blue back with black neck-ring and white markings.

47. MEADOW LARK. Abundant in the fields, usually in the grass, March to November. Known by its sweet song, yellow breast, and white outer tail feathers.

48. MOURNING DOVE. Frequent in trees of orchards, lawns and fields. April 5 to October. Known by its soft cooing note, and dove like form, and also, when flying, by the whistling noise of the wings and the broad pointed tail.

49. THRASHER. BROWN "THRUSH." Frequent in bushy gardens and thickets from April 15 to October. Known by its mocking bird song (from a tree top morning or evening), the "thrush breast," bright cinnamon back and slender body with long tail.

50. YELLOW HAMMER. FLICKER. Frequent about trees of orchards, lawns and open woods, March to October. Known by its woodpecker habit of clinging to the bark and pecking trees, and its brownish color. Its loud call "*Wick-a-wick-a-wick-a-wick*" is characteristic. The yellow lining of the wings and tail can be seen when it flies overhead.

51. CROW BLACKBIRD. GRACKLE. Abundant in trees of lawns, orchards and fields, or *walking* on the ground, in flocks, March to November. Known by the black coloring, with greenish iridescence about head and neck.

52. CROW. Common in fields and open woods, away from houses. Throughout the year. Known by the black color, size and characteristic "*caw*" note. More often seen when flying; walks on the ground.

53. CUCKOO. RAIN CROW. Frequent in trees about houses, May to September. A shy bird, more often heard than seen. Known by its "*cuckoo*" note, its long bill and tail, and brownish color.

54. NIGHT HAWK. BULL BAT. Locally common, sometimes abundant. Rarely seen except when flying. Known by its swallow-like habits of flight; its larger size; its long pointed wings, each of which has a white spot in the center that looks like "a hole in the wing."

55. BUTCHER BIRD. SHRIKE. Occasional, winter or summer, in fields and open woods. Known by its habit of impaling insects and small birds on thorns. Color gray and white. Flies low. Perches on the top of low trees.

56. KINGFISHER. Frequent along large streams and ponds. Known by its rattling note; its blue and white color; its prominent crest and long bill. Feeds on fish caught with the bill when diving.

57. GREEN HERON. SHIDE POKE. Occasional along streams and about shallow water. A greenish bird with very long neck and legs.

58. MARSH OWL. SHORT-EARED OWL. Occasional in grass and low trees in fields, throughout the year, but more common in winter. The only large owl likely to be seen flying near the ground in open fields.

59. "HEN HAWK." CIRCLING HAWK. BUTEO. Frequently seen flying high in the air in circles. Known by its manner of flight, and clearly whistled "*kee-you*." Feeds mostly on field mice, rarely touching poultry.

60. WILD GOOSE. CANADIAN GOOSE. Often seen flying in large V-shaped flocks, northward in March, southward in November. May be recognized by its manner of flight and cackling notes.



The Last Bob White

*Oh, how they murdered poor Bob White to-day!
The booming guns were heard on every side,
From early morn till evening passed away
The frightened coveys scattered far and wide.*

*No spot on earth could hide him from his foes
For keen of scent the eager pointer came,
And flushed him from the ground, and as he rose
He fell before the hunter's deadly aim.*

*But when the day was done, and all was still,
And twilight's purple shades began to fall,
From off the summit of yon leafy hill
I heard the echo of a lonely call.*

*It called into the night, but all in vain,
For none of all his feathered mates was there
To sound the call responsive back again,
And come to meet him through the chill night air.*

*They say this wanton slaughter is not sin—
That birds and beasts were made for man's delight;
But oh! there is such lonely sadness in
The plaintive calling of the last Bob White.*

—WHITNEY MONTGOMERY

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

ACTIVE MEMBERS	\$2.00 annually
CONTRIBUTING MEMBERS.....	\$5.00 annually
SUSTAINING MEMBERS.....	\$25.00
LIFE MEMBERS	\$100.00

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THE AUDUBON BULLETIN



THE
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For the Protection of Wild Birds

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Telephone Lincoln 0606



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A Vacation at the Audubon Nature Camp

By JANET HULL ZIMMERMANN

ARE YOU beginning to think about next summer's vacation? And do you need an idea for a Christmas present from your family? Then ask them to send the National Audubon Society a ten dollar deposit to reserve a place for you at the Audubon Nature Camp in Maine. My vacation last summer was one of the most satisfying I have ever had, and I believe the 50 other campers at that session felt the same way.



ALLAN D. CRUICKSHANK FROM N. A. S.

Audubon camp in Maine.

The Audubon Nature Camp is conducted by the National Audubon Society. Its purpose is to "equip the student to plan and conduct programs furthering nature appreciation and the conservation of natural resources." Five two-week sessions are held from the end of June through August, under the direction of Carl W. Buchheister, who is also vice-president of the Society. The camp is on Hog Island in Muskongus Bay, the first bay south of Penobscot Bay. The location on the tip end of a peninsula of the island is so beautiful that you'll wish you had more leisure for relaxed enjoyment of the scenery. Behind the camp is a deep forest of spruce and fir. To the north and east lie the wooded islands of the bay; and only a few hundred yards to the west, the meadows of the mainland slope down

to the shore. You can hear the birds of the fields singing across the water in competition with the warblers and thrushes of the forest.

The post office address is Medomak, but if you arrive by train, you will leave the Maine Central Railroad from Boston at Newcastle and the adjoining town of Damariscotta. Each session opens on a Friday. You will spend the preceding night in one of the charming tourist homes in the lovely old colonial town of Damariscotta. Friday morning the campers meet at the Riverview Restaurant. While you are eating breakfast Mr. Buchheister will pin a tag on you identifying you to the other campers. Soon you are off in a fleet of cars for the camp dock, about 25 miles distant, and the fun is under way. The countryside is beautiful, and Mr. Buchheister, or whoever your driver is, will call your attention to every bird-call along the way. For the next fourteen days your eyes and ears and wits will be alerted every minute.

By Friday afternoon you have been assigned your quarters in one of several dormitories, all the details of registration are out of the way, and you are ready for a "shake-down" cruise through Muskongus Bay. On this cruise you will see harbor seals sunning on the rocks. You'll see black guillemots, great black-backed gulls, laughing gulls, all three of the scoters, and perhaps Arctic terns and eider ducks. Allan Cruickshank directs bird study. Most of you probably know him as a photographer and lecturer for the National Audubon Society. He is also a superb teacher, and his high spirits contribute immensely to the gayety of the camp. By the end of this first trip he and his assistant, Joseph Cadbury, will have hammered into your head the difference in posture between the cormorant and the loon as they ride on the water at a distance; the flight outlines of the osprey and the great blue heron; the distinctions between the scoters; and many other points of identification.

Saturday morning the program is under way, and you will have not one moment for boredom. Every camper is required to take bird study and nature activity. These classes alternate in the mornings from 8:30 to 11:30. In addition you have a choice of studying plant life, marine life, or insect life. Each of these groups makes a field trip every afternoon from 2:30 to 5:30. One all-day sea trip, and two or three half-day trips in the boats are scheduled for each session. The "free" evenings are devoted to reading in the excellent library, or developing some project in the workshop. On alternate evenings there are one-hour lectures on natural history and conservation subjects, illustrated with colored moving pictures and slides. If the stars are shining, a telescope is brought out on the lawn, and you look at Jupiter's moons, the double star in the handle of the Big Dipper, the moon's craters. On Sundays there is a picnic and bonfire, and one other night there is a lobster feast on the rocks. As the sun-set fades and the fire leaps and crackles, Mr. Cruickshank leads us in singing the old familiar group songs, with hilarious versions of his own, and Joe Cadbury teaches us some beautiful spirituals.

If you are interested in birds above everything else you may be disappointed to find that you cannot go on a bird trip every day. The camp staff believes that birds are only one part of the total nature picture, and

should receive no more emphasis than any other aspect of nature study. The energetic bird chaser can get up at 5 o'clock in the morning instead of 6:30, and walk in the spruce forest back of the camp with other enthusiastic birders. Within five minutes walk of the buildings you will find the following birds nesting: song sparrow, junco, chickadee, golden-crowned kinglet, red-breasted nuthatch, olive-back and hermit thrushes, osprey, and parula, myrtle, magnolia, blackburnian, and black-throated green warblers. Farther distant from the camp, in the heart of the main island, are bay-breasted and Cape May warblers, and white-winged crossbills. You will have to get up about four in the morning to find them! The pileated woodpecker



ALLAN D. CRUICKSHANK FROM N.A.S.

Mr. Buchheister and group at cormorant nest.

advertised his presence with great rectangular borings in the trees, but we never saw him.

The morning we arrived, Mr. Cruickshank had just rescued two baby parula warblers from a red squirrel that had destroyed the nest and eaten two other young. He improvised a nest of the *usnea* lichen which drapes all the trees of the island, and suspended it from a branch hung between packing boxes. Apparently indifferent to the campers and their cameras, the parent birds fed the young for the next three days. A picture which everyone prized was the male parula, wings beating furiously, feeding the tiny babies from the outstretched hand of five-year-old Joel, Mr. Cadbury's son.

If you want to learn songs, stick close to Mr. Cadbury. A natural musician himself, he has the most amazing ear for music. On one trip we stood on the edge of a broad field with the forest beyond it. He urged us to listen intently, and name all the birds we heard. I identified seven. He called off fifteen! Incidentally, he is a direct descendant of John Bartram, the "father of American botany," and William Bartram, one of the nation's earliest ornithologists.

The sea trips are especially interesting to Middle-Westerners. When the ocean promises to be calm and free of fog, half the camp goes off in the two boats, loaded down with binoculars, cameras, raincoats, sun-tan oil, and insect repellent. A landing is made on one rocky island to examine and photograph the nests of the black guillemots. The island on which the Leach's petrels nest is visited only in a flat calm, for the landing is extremely difficult. If you have the good luck to hit the right weather, you will see the brooding birds and the nestlings tucked down in their burrows. They feed only at night. The absent member of the pair spends the daylight hours far out at sea.

A large cormorant and gull colony nests on Old Hump Ledge. On this one ledge alone there were 188 nests last summer, and about 500 breeding pair in the entire Bay. In 1931 there were only four known pair in Muskongus Bay. We saw the birds in every period of development from blind, naked, rubbery-looking creatures that only a mother cormorant could admire, to loudly squawking adolescents about to leave the nest. The cormorants' nests are crowded along the top of the ledge. On the lower levels are herring and black-backed gull nests. The newly hatched gull chicks crawl away from the nest as soon as their feathers have dried, and hide in the crevices of the boulders. We had to watch every foot-step lest we crush one, for they are the color of the rocks, and difficult to see. We even watched two chicks hatching. We could peer into the end of the egg and see the egg tooth chipping away at its small prison. Mr. Cadbury bands the half-grown young birds on all these trips. The campers helped him catch the gulls — awkward, leggy creatures who can run among the rocks with surprising agility. Two of the campers were severely bitten and had to be patched up by the nurse who accompanies the sea trips. Mr. Cruickshank remarked that they had banded many a gull, but that was the first time the gulls had banded the campers. Mr. Cadbury has had about 250 returns from the gulls he has banded in Muskongus Bay. Most of the returns came from Tampa Bay, Florida, and a few from the Gulf coast of Louisiana and Texas.

On Wreck Island we saw our first northern ravens, and heard their unforgettable croak. This is a beautiful island, almost tropical in the dense, lichen-draped forest. It is the scene of a charming story for children, "The King of Wreck Island," by Barbara Cooney. Here we visited large rookeries of the great blue and black-crowned night herons. Mr. Cruickshank climbed to one nest and lowered a great blue nestling in a sack. We kept a safe distance from the outraged youngster, for that powerful bill jabs at any gleaming object, and can put out an eye. On the same island Mr. Cruickshank climbed up to an osprey nest and lowered

the two young to the photographers below. They were extremely bored by the whole business, slumped down on a rock side by side and fell asleep. Of course the young were returned to their nests. On this trip between 500 and 600 eider ducks gave us a wonderful show. They are often seen in Muskongus Bay, but no nests have been discovered. Off the island where we lunched we saw two females. Mr. Buchheister sent us on a treasure-hunt in search of the down-lined nests, but without success. On the return, as the boat approached the dock, Mr. Cruickshank still had enough energy left, after climbing two trees and scrambling over rocks all day, to stand on his head at the prow of the boat and wave his legs in the air to signal a successful trip.

While the bird trips are probably the most interesting of the camp experiences, every day holds something new. In the afternoons at 2:30 we set out on a three-hour field trip, armed with the paraphernalia of our specialty and looking pretty funny — the insect chasers with butterfly nets, the plant group with magnifying glasses and vascula, the marine lifers with glass-bottomed pails and hip-boots. I chose plant study, under the direction of Miss Farida Wiley, a botanist who teaches at the American Museum of Natural History in the winter. We visited a new habitat every day — peat bog, meadow, swamp, salt marsh, country road, open fields, ponds, deciduous woods, deep spruce forest. We learned to identify seventeen different ferns, and a number of mosses, club-mosses, trees, shrubs, and flowering plants. In a marshy meadow we discovered exquisite pink pogonia, one of the orchids. In a peat bog in the heart of the forest the pitcher plant bloomed. Pink lady slippers and coral-root were delightful finds. While we looked at hawkweed along the roadside, chestnut-sided warblers sang cordially from the trees overhead, "very pleased ta meet' cha!" Miss Wiley is an all-round naturalist, and while we observed plants she called our attention to whatever birds were about in the afternoon. On a Sunday afternoon when the whole camp could go along, a trip was made which contained a rare treat — something to be found in few other places in the world. It's a surprise, so if you want to see it you will just have to go to camp yourself!

Nature activity, which alternates with bird study in the mornings, is great fun. The work is led by Miss Dorothy Treat. She is the director of the Junior Audubon clubs for the National Society, and editor of the School Nature League Bulletins. The first morning we had a lesson in weather forecasting. We learned how to make a barometer out of a coca-cola bottle and a bent glass tube; how to estimate wind velocity by observing plants, trees, and smoke in motion; and among more useful information, how to tell temperature by a cricket's song. You count his chirps per minute with a stop watch, subtract 40 from the total, divide by four and add 50 and you have the temperature! I must confess we never tried it. Every morning a committee is appointed to forecast the weather for the day. With neither newspaper nor radio on the island we were expected to depend on our own predictions. The morning I served on the committee I shamelessly eavesdropped on Mr. Buchheister and the boat captain dis-

cussing the weather as they do every morning before making the day's plans, and saved the committee a lot of bother.

One morning we scrambled around on the rocks, hammer and chisel in hand, speeding up the natural processes of erosion by several hundred thousand years as we industriously cracked open the granite and schist boulders of the island to find out what minerals comprise it. Garnets ranging in size from small to minute are embedded in the schist, and many of the campers became devoted garnet hunters from then on. We learned how to make smoke, crayon, and spatter prints of leaves. We outvied one another in the artistic arrangement of our blueprint impressions of flowers, ferns, lichens, mosses, and grasses. We learned how to construct an elec-



Camp faculty, left to right, standing: Dr. Marcus C. Old, marine life; Carl W. Buchheister, director; Allan Cruickshank, bird life; Arthur Smith, insect life. Rear: Joseph Cadbury, bird life; Farida Wiley, plant life; Dorothy Treat, nature activity.

trical bird-namer; where to get free bird and flower pictures, charts, and movies; how to play nature games to stimulate a small child's interest; how to plan a nature "treasure-hunt"; how to press flowers and mount twigs. The quantity of practical, "down to earth" material that is given in these classes is amazing. To dramatize the abundance of organic life in a half square foot of top soil we dug up the soil, lugged it in a box to the workshop, and divided it between two groups who separated and classified its contents. It got to be hilarious as we chased lively bugs and insects and popped them into a bottle. Most of us knew nothing whatever about insects, so we gave our creatures such unscientific names as "white crawler,"

"red infinitesimal?" and "lesser infinitesimal?" But no one failed to appreciate the quantity of plant and animal matter, both living and dead, in soil.

In the evening the work-shop buzzes with activity. The marine lifers have filled the aquaria with the day's collection of jelly-fish, sea cucumbers, star fish, and are studying the specimens. One group is examining plankton under a microscope. They are making a chart of the plankton to be found in Muskongus Bay. A professional artist in the group is drawing the specimens as he sees them in the microscope and transferring his tissue drawings to the charts. Others work on the identifications, and the lettering of the chart. The insect students are mounting, identifying, and labeling their collections. Someone is feeding the snakes and lizards, frogs and toads in the terraria. Around a great table the plant life students are squinting through magnifying glasses, arguing over the number of peristome teeth in a particular moss which is defying identification. I was eager to learn how to use a botanical key so that I could identify the plants in my own community. I brought back specimens from each trip in a vasculum, and spent the evening taking them apart. With Miss Wiley's generous help I learned the technical terms used in a key and began to talk quite airily about monocots, dicots, and vascular bundles!

In the library in the "Fish House" others are reading, or chatting in small groups with the staff and with one another. An important part of camp life is the contact with 50 other people all interested in the same things, and all there for some definite purpose. A biology teacher from Costa Rica is learning techniques to use in his own country. A vivacious young woman who does volunteer work in the Madison Square Boy's Club in New York City wants to know how to bring nature appreciation to the slum dwellers of concrete-bound Manhattan. A personnel director for a large manufacturing plant believes that if she can interest some of her problem cases in nature study she can help to unravel their emotional and personality difficulties. Another young teacher is tackling juvenile delinquency in her community through directed play and the development of hobbies. There were scout leaders and camp counselors, representatives of women's garden clubs, a director of recreational work in the Chicago city parks, a state forestry worker, and many who were there simply because they love the outdoors and all it means in enriched living.

John H. Baker, the president of the National Audubon Society comes up to Hog Island every two weeks to meet and chat with the campers. Each group, too, has the pleasure of meeting Mrs. Millicent Todd Bingham, and her husband, Dr. Walter V. Bingham. It was Mrs. Bingham who rescued the island from lumber interests. Through her efforts the Todd Wildlife Sanctuary was established as a memorial to her mother, and leased for a dollar a year to the National Audubon Society as the site for a camp. Her story "Rescuing an Island" appeared in *Natural History Magazine*, May, 1937. Mrs. Bingham is the daughter of a famous astronomer, David Todd, with whom she traveled throughout the world on scientific expeditions. She became a notable professor of geography, a lecturer and a writer. With her mother, Mabel Loomis Todd, she edited the last poems of Emily Dickenson to be given to the world, "Bolts of

Melody." Mrs. Bingham's own vision of the camp is a fitting conclusion to this account of a vacation on Hog Island. She writes:

"The whole camp exhales an atmosphere of wonder — the beginning of wisdom. Here was my forest wilderness, a laboratory of eager students who were not only enjoying it, they were taking it, bit by bit, studying and classifying its resources, making it yield its secrets! And yet with it all, the wilderness remained a wilderness. The solitude was as untouched as ever.

"I recalled those years during which I had been trying to convince somebody, anybody, that the island was a good place for a nature camp, and how I had been told over and over again that there were not enough people interested in nature in the whole United States to support such a project. Each time that I heard it could not be done, I turned my thoughts toward those silent, moss-carpeted forests. I listened to the thrushes in the gathering dusk. I saw those magic midsummer nights and the slowly engulfing tide . . . when each stroke of the oars left a cloud of light deep down in the water. . . . I seemed to be watching the migration of warblers high up against the disc of the moon, or listening at noonday to the chant of the vireo, voice of the northern wilderness. Ah, I thought, if only the island could be saved it would do more for us than we could possibly do for it. . . . And so, it seems, Hog Island has become not only a focus of interest, but a center from which radiate new ideas and new enthusiasm for the preservation of the out-of-doors, indeed, of our whole heritage of natural resources."



Scissor-tailed Flycatcher in Chicago Area

By KARL E. BARTEL

ON MAY 3, 1947, a scissor-tailed flycatcher (*Muscivora forticata*) was identified by Mr. and Mrs. Albert L. Campbell and Mrs. Amy G. Baldwin at Wolf Lake, Indiana, about a quarter of a mile from the Illinois state line. This bird was watched for half an hour, frequently at distances of not more than 25 and 30 feet. While feeding on flies, over a cinder fill adjacent to the lake, ample opportunity was afforded to observe the long tail as well as the pink sides and under lining of the wings when the wings were being folded.

This flycatcher was present next day and was seen by seven other members of the Chicago Ornithological Society, including the writer. A heavy gale had been blowing from the south on May 3 and may have assisted this bird in its wanderings north and east of its normal range.

This appears to be the third record for the Chicago area. One was seen at La Grange, Cook County, Ill., April 22, 1902 (Craigmile), and the other was seen in Lincoln Park, Chicago, on May 20, 1933 (Dreuth).



THE EYE SEES what it has the means of seeing, and its means of seeing are in proportion to the love and desire behind it. The eye is informed and sharpened by the thought.—*John Burroughs*.

Grosbeaks

By ANNA C. AMES

THE MEMBERS of the family known as grosbeaks probably better illustrate than any other group the truth that birds are classified according to structure, not according to plumage or song. There is a red grosbeak, a blue one, a yellow one, a rose-breasted one, a black-headed one with a tawny or buffy-cinnamon breast divided lengthwise by a lemon-colored line, and there is one with a rosy head, breast, and rump. These references to color apply chiefly to the male birds; the females are much more modestly and quietly dressed. All have large, conical bills and are efficient seed-eaters.

The grosbeaks form one of the most attractive and satisfactory groups of birds. They are tuneful, prepossessing, and useful. Their family life is ideal. Unless they have learned from experience to distrust man, they are gentle, confiding, and fearless. In the past the cardinal, the rose-breasted grosbeak, the evening grosbeak, and the blue grosbeak have not infrequently been caged. The cardinal comes freely to feeding stations in winter as does the evening grosbeak in some localities.

The cardinal grosbeak, so-called because he wears the brilliant garb of a cardinal of the church, or red-bird, was formerly considered a bird of the South, but he has so extended his territory that he is now a permanent resident in the Chicago area. Louis Untermeyer has referred to him as a "crimson arrow." On a gray, cold day he makes a pretty picture against the winter's snow and he sings during every month of the year. He is our only red bird with a crest (except the pyrrhuloxia). Female cardinals vary greatly in depth and amount of coloring. Some are strikingly attractive while others can hardly be said to be pretty. All are crested. In the spring the male cardinal is ardent in the pursuit of the lady bird of his choice although she may be but a drab-looking female. According to Gene Stratton-Porter he calls her, saying, "Come here. Come here." Later he whistles, "So dear! So dear!" He knows she is won when she accepts food from his bill.

The lady cardinal sings almost as well as her mate but in a softer strain. The first time that I heard her I thought, "That sounds like a cardinal yet doesn't seem quite right." So I hunted the singer until I located her.

The cardinals are not strictly particular about the location of their nests, but do like a site with considerable cover, such as a heavily leaved grape vine, a vine-covered stump, a brush heap or thicket of dense bushes. The eggs vary in color from white to bluish, grayish, or greenish, but they are always splotched with various shades of brown, purple, and lilac.

The cardinal is very attentive to his mate, staying near and singing while she is building the nest, and, after incubation begins, bringing her food when she asks for it. Both parents assume the care of the young during the nine or ten days that they remain in the nest. When they are able to fly a little the father takes almost or completely sole charge of them and guards them for three weeks or more while the mother is busy

with another brood. I have seen the father bringing food to the dainty little fawn colored birds when as yet they showed no sign of the color that later was to be theirs. The cardinals often raise two, and sometimes three, broods in a season.

The rose-breasted grosbeak is not as common about the yards and homes of men as is the cardinal, but it sometimes nests in a tree of a well-shaded city street. I have seen a male bird incubating in an apple tree of a home within a block of one of the principal streets of Urbana, Illinois. In the spring the birds may sometimes be seen in cemeteries and in public parks. When they fly, the rose-colored linings of the male birds' wings are strangely beautiful. The wings of the sparrow-like females have lemon-colored linings. The black of the bird's rump, wings, and tail is impressively marked with spots and blotches of white. Next to the cardinal the rose-breasted is the most common grosbeak of the Chicago region.

The male birds usually come first and when the females appear they receive much attention. Four to six males may sometimes be seen courting one female. The rival birds sing and fight at the same time and sometimes draw blood from each other. Then when the battle is over the formerly indifferent female flies off with the victor.

The song of the rose-breasted grosbeak is "a loud, sweet, luscious warble." T. S. Roberts has said that there "is nothing more beautiful in the way of a warbled song in all the Northern woodlands." The female also sings short snatches of a warbled song. Both frequently sing while incubating the eggs. When not incubating, the male bird's song is usually given from near the top of some tall tree. Ordinarily the birds rear but one brood annually.

The food habits of the rose-breasted grosbeak give it high place among the friends of the farmer. It is one of the few birds that eat potato-bugs in large quantities; hence it is known as the "potato-bug bird." One-tenth of the rose-breasted grosbeak's food is made up of this insect. One must reluctantly admit that it is also fond of garden peas, but any harm done on this account is more than compensated for by the bird's destruction of noxious insects.

The extreme neatness of the rose-breasted grosbeak has often been noticed. He is a very clean bird and his nest is always clean. He leaves no litter about. Whatever he breaks up for food is never scattered about, but the remnants are left in small, inconspicuous piles. If all human beings were as particular as he is, public picnic grounds would be greatly improved in appearance.

The black-headed grosbeak is in the West the counterpart of the rose-breasted bird of the East, and has much of the same habits and tendencies. Its range extends to eastern Nebraska and eastern Kansas.

Like the rose-breasted grosbeak, the black-headed bird assists in the incubation of the eggs. Edward Howe Forbush tells us that he keeps the nest during the greater part of the day and the female takes charge at night. I have seen both birds upon the nest at different times during a day.

In small communities the birds frequently nest in the trees near dwell-

ings and are a delight to all who see and hear them. I have never been conscious of hearing the female sing, but know from experience that the male bird gives a melodious warble that seems to express ecstatic joy. He sometimes sings while on the wing and he sings all day, even at hot high noon when other birds are silent. In her book *Western Birds*, Harriet Williams Myers says, "The call of the young birds is the most musical of any single call note I know in the bird world. It is a liquid Whe-o and is given by the nestlings as they follow the parents about in the trees." The black-headed grosbeaks, like others of their close relations, are devoted parents. They sometimes rear two or three broods in a season.

The evening grosbeak is, like Widsith, a far traveler. His range extends from the northwestern part of the United States and western Canada east to northern Michigan; south in winter irregularly to Kansas, Iowa, Illinois, Kentucky, Ohio, etc.; eastward, irregularly and in winter only, to Ontario, New York, and New England. Its normal breeding territory is western Canada, but it shares with the pine siskin, the crossbills, and the Bohemian waxwing an indifference to any established breeding territory. "Thus it goes wandering through the land, few or many together, winter and summer, settling for a season and rearing its family in most unexpected places. Normally it belongs in the coniferous forests of the West, but it has been found nesting among cultivated evergreens far from such surroundings."

There are three sub-species of the evening grosbeak. One sub-species sometimes is found as far south as southern Mexico. For the eastern race an east and west movement of over 1200 miles has been proven by banding operations.

The irregular movements of this bird seem to be determined largely by food conditions. As it is always erratic in its appearances, they are fortunate who see a large flock or even one of these birds "of singular and striking beauty." In Chicagoland the Morton Arboretum seems to be the chief haunt of this winter visitor. There last February over two dozen were seen in a tree together. Personally I saw but one, which at first sight was feeding on the ground under a tree. It flew to the center top of a tree in which twenty-eight cedar waxwings were perched. A male purple finch flew in and alighted on a side twig of the tree. Then, as so often happens at inauspicious moments, an automobile passed on the nearby road and all the birds departed. I was reminded of the day, years before, when I had seen a large flock of these birds in a small town in eastern Washington. The evening grosbeak has more white in its wings than other grosbeaks and its large white patches show at a great distance when it is in flight.

The generic name of the evening grosbeak is derived from the Greek, referring to the Hesperides, "daughters of Night," who dwelt on the western verge of the world where the sun goes down. It was named in 1825 by W. Cooper and was called "evening" because at that time it was observed to sing only at sundown.

Dawson "gives three sorts of notes of the evening grosbeak as being

plainly distinguishable: a low murmuring of pure tones, quite pleasant to the ear; a harsh but subdued rattle, or alarm note, *wzzzt* or *wzzzp*, familiarly similar to that of the crossbill; and the high-pitched shriek, which distinguishes the bird from all others, *dimp*." All the birds of a flock are said to bring out this last astonishing note at precisely the same pitch.

The food of the evening grosbeak consists largely of vegetal matter and chiefly of seeds. They also eat the buds of many deciduous trees and feed on a considerable number of winter fruits. Of all foods their preference is for apple seeds taken from frozen apples. The seeds of the box-elder and of the maple are a favorite diet. At the feeding stations they apparently prefer sunflower seeds to anything else unless box-elder seeds. Evening grosbeaks together with their chief associates, the pine siskin, the crossbills, and the purple finch, are said to be inordinately fond of salt.

Evening grosbeaks have not infrequently been caged for considerable periods and do well in captivity.

The blue grosbeak is the smallest of his tribe and is quite widely distributed in the United States. This bird has a very slight place in a list of birds of the Chicago region. A few have been reported for Cook County, but the bird is seldom seen farther north than southern Illinois, and it is not often seen there. The male bird is distinguished in that he is one of the few birds that is really blue, though a dull blue. He has some black about his face but not so much as does the cardinal. He is marked with two brown wing bars. His mate is a brownish bird indistinctly streaked. In a hot, hot Kansas summer, so hot that one could hardly stand in the sun without the protection of a shade, I have seen them, and even cerulean warblers, come down to a stream to drink.

These birds live in bush-grown fields, swampy thickets, and the edges of woods. They are considered the most shy of the grosbeaks, especially in the breeding season.

"The nest of the blue grosbeak is usually near the ground, often being suspended between a few upright stems of tall weeds, in a bush, or on a low branch of a small tree." The nest usually contains a cast snake skin in its construction.

During the nesting season blue grosbeaks eat large quantities of injurious insects and feed them exclusively to their young. Later they sometimes collect in flocks and move into fields of oats and rice where they may do considerable harm. Yet they consume almost five times as much insect food as grain and some of the insects they devour are especially destructive, such as weevils. More than a fourth of the seasonal food is composed of grasshoppers. A tenth of the bird's subsistence is made up of caterpillars and cotton cutworms, enemies of sugar beets and cotton. Western blue grosbeaks are said to be especially fond of mustard seeds.

The territory of the blue grosbeak extends entirely across the southern half of the United States; but west of Louisiana there are so many differences in coloration of the bird that scientists have made of them a separate variety, the western blue grosbeak. Perhaps other distinctions should be

made. The Utah and California birds differ from the Arizona birds and they from the Texas birds. Western birds are paler colored than eastern blue grosbeaks.

The thought of pine grosbeaks brings with it the suggestion of the cold pure air of northern woods and the scent of evergreen trees. They are largely denizens of the coniferous forests of the North and of the mountains of the West. In the winter they wander south to temperate latitudes, but they are practically unknown in the Chicago territory. Wherever they go, they are to be found in groves of pine and spruces, wild or cultivated. Dwelling usually far from the haunts of men, they have retained a tame and unsuspecting nature.

The pine grosbeak is the largest of the northern finches, being near the size of a robin. The adult males, with the exception of wings and tails, are largely a handsome rose-red. Two or more years are required to bring the adult males to the rosy-red plumage, and it is the opinion of ornithologists that some of the birds never acquire this striking beauty. The females are, wings and tails excepted, gray birds with their crowns and rumps yellow.

The song of this bird has a ventriloquial quality. As bird music goes, it is very fine, full of warbles and trills, and often given with many tender notes. Sometimes the males sing in winter even when the thermometer falls below zero. Thoreau refers to their song and to their "dazzling beauty" and terms them "angels from the north."

Truly there is an especial charm about these hardy birds from northern wilds which pay no heed to the cold. During the winter they bathe in soft snow, standing in it, either on the ground or on the limbs of coniferous trees, fluttering their wings and throwing the snow-spray over their plumage as if it were water.

The economic status of the pine grosbeak is neutral, as it feeds largely upon buds from pine, spruce, and tamarack trees, the berries of the Virginia juniper and the mountain ash, and the seeds of maples. It does no particular harm and does no particular good, unless possibly in the distribution of the seeds of some valuable trees. Surely it is a point in its favor that it adds to the beauty and glory of the world.

The perky Arizona pyrrhuloxia, that gray bird with flaming crest, front, and tail, has been called the gray cardinal. He lives in the desert reaches of the Southwest. His range is confined to the hot upland areas of the northern plateau of Mexico, and the adjacent parts of Arizona, New Mexico, and Texas. The eastern variety is known as the Texas pyrrhuloxia.

Although this bird has many of the traits of the wide-ranging cardinal, it has also conspicuous differences. Its song is a clear, cheerful whistling and it lacks the *cue* note of the cardinal.

The red crest is the most characteristic feature of this parrot-billed bird. Every change of mood is not only shown but also exaggerated by the quick up and down motions of the crest feathers. These changes occur many times within an hour.

The food habits of the gray grosbeak are beneficial to man and as far as is known the bird eats practically no beneficial insect and damages no crop. All in all, the grosbeaks are a varied and interesting group of birds.



Changes on Our Board of Directors

SOME FIVE YEARS AGO the United States Department of the Interior transferred a portion of its force from Washington to Chicago. They included the Fish and Wildlife Service, National Park Service and Bureau of Indian Affairs, and among their personnel were many whose duties brought them into friendly association with our Society. Mr. Leo K. Couch, Mr. Philip A. DuMont, Mr. Clifford C. Presnall and Mr. Victor H. Cahalane accepted membership on our Board of Directors, and during those years their counsel and the benefit of their broad information have been freely and generously given us.

The time has now come when they have been re-transferred to Washington, and their resignations have been most regretfully accepted. We shall long remember the aid and support they have given and the great pleasure we have had in their presence among us.

To partially fill the vacancies thus created we are pleased to welcome Dr. Austin L. Rand, Curator of Birds at Chicago Natural History Museum, and Mr. Emmet R. Blake, Assistant Curator, to seats on our Board of Directors.



A Friendly Crow

THE EASE with which our common crow can be trained to accept association with human beings has long been known. The following letter, dated September 29 and addressed to the Fish and Wildlife Service, describes one that evidently had left his adopted friends, but had not acquired the fears and consequent caution of a wild bird.

"You might be interested in my experience of last Saturday, Sept. 27, and I would be interested to know whether this was a trained bird or not.

"Last Saturday afternoon a group of us had an outdoor picnic at Turnbull Woods, on Waukegan Road near Braeside station. About three o'clock we were getting ready to fry some steaks when a crow appeared in the trees beyond our tables, and in a few minutes dropped down on the ground within five or six feet of a good camp fire. I suggested he might be looking for some meat and offered him a piece, and he walked over and ate out of my hand, all the fat around the meat and left the fresh meat alone.

"He aroused our curiosity and began to get attention. He hopped up on the picnic table and we fed him bread and bacon fat, and later butter, which he seemed to enjoy. He was then attracted to shiny objects and would take a fruit jar cover from your hand and carry it away.

"Later, when we were better acquainted, we caught one leg and read

the band on his right leg. He snapped a bit but did not get too panicky. The number was 'United States Biological Survey 36-521905.' After attempting to read the number we let him go and he continued to amuse himself with colored dishes and cellophane packages on the table, and even drank water out of a glass. Later one of us was lying in the grass near the fire and chewing an apple. He came over, pecked at her hair, jumped on her chest, and began opening her lips with his beak, eating what he could find in her mouth. He was very gentle and apparently a trained bird, and stayed around for about two hours. About dusk he slowly took off into the trees.

"This is an accurate account of our experience and I would be interested to know what background you might have on this crow.

Very cordially yours,
IRVING M. STRANSKY, D.D.S."

In the *Chicago Tribune* of October 8, Bob Becker describes the actions of a bird which may well have been the one Dr. Stransky saw:

"A tame crow that sprung the pigeons springer spaniels were to hunt in a recent trial held near Lake Bluff, Ill., was one of the most amusing sidelights veteran dog men have seen in many a year.

"On the opening day the field trial committee had a tough time secreting live pigeons in the tall grass because of this crow, a fugitive from some North Shore home, which would watch the plant from a tree. And then, as soon as the men had left, it would fly down and flush the live bird. As a result there were more barnyard pigeons flying around the grounds than we've ever seen at any previous event of this kind.

"Some one finally did away with the crow and the various stakes then went off in good style."

It seems too bad that the crow should have had to pay with his life for a friendliness taught him by man.



Brown County State Park

By LELA M. CAMPBELL

TO ANYONE who has never visited the Brown County State Park in southern Indiana, there is a treat in store. Located near Nashville, it affords an abundance of scenic beauty, interesting hiking trails, and good birding. The rolling hills that meet the sky in the distance should be beautiful in the fall, and it is little wonder that artists from all parts of the country congregate there to try and repeat on canvas the panorama that nature has laid out. Our visit was in the spring, five days in the early part of June, and for our bird list we had a total of 67 species within the park, including the pileated woodpecker. All night long the whip-poor-will sang, but there were no owls.

The prize find for the trip was the white-eyed vireo. We had been told that it might be found at the covered bridge entrance to the park as it

nested there last year. We searched the area several times before spotting him, but it was time well spent. He is not an unusual looking bird, his white eye is not too conspicuous, nor does the yellow on his breast set him apart from other birds, but his song is most beautiful. Just what part of the song was his own we could not determine, for at times he seemed to imitate the catbird, the house wren, or the yellow-breasted chat. He would repeat one portion of his song again and again, then suddenly, as if he had grown tired of it, he would hesitate a moment, then start another phrase.

The summer tanager, cerulean warbler, Bewick's and Carolina wrens, all of which were apparently nesting there, are rare visitors in the Chicago area. The little cerulean warbler sang as he flitted about in the trees just outside our cabin. We hope to make many visits to this beautiful spot, sometimes in the fall to view the vast expanse of color. Perhaps then the owls will be in evidence.

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The Song of a Bird

*I once took a walk, through the lane of despair,
Knew not where I wandered, nor did I care.
It seemed that the world would not treat me fair,
But placed on me burdens, which I could not bear.*

*One day in my wanderings, I sat neath a tree
And the weight of my burden was smothering me.
I chanced to look up, only leaves did I see,
But there from his palace a bird sang to me.*

*He sang about love, about nature so free,
He sang of his home in a sheltering tree.
He sang about streams dancing on to the sea,
And he sang while I sat in complete misery.*

*He sang me a song and it came from the heart,
It fell on my ears and shall never depart.
He sang about nature, the world from the start,
And my burdens around me were falling apart.*

*His song of contentment so soothing and sweet,
Was a song that was destined to make life complete.
For it lifted my soul from the depths to the steep,
And my burdens lie buried, forever asleep.*

*A lesson we learn from the song of a bird,
And yet, never is spoken a single word.
We listen intently, and feel that we've heard,
The wisdom of ages; "The Song of a Bird."*

—IVAN MERRILL

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

ACTIVE MEMBERS	\$2.00 annually
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SUSTAINING MEMBERS.....	\$25.00
LIFE MEMBERS	\$100.00

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THE AUDUBON BULLETIN



Number 65

March, 1948

NATURAL

THE
ILLINOIS AUDUBON SOCIETY
(ORGANIZED IN 1897)
For the Protection of Wild Birds

Affiliated with
The Chicago Academy of Sciences
2001 NORTH CLARK STREET
CHICAGO 14
Telephone Lincoln 0606

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*The Society invites the membership of all bird
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THE AUDUBON BULLETIN

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2001 NORTH CLARK STREET, CHICAGO 14, ILLINOIS

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March, 1948

Bird Sanctuary or Garbage Dump?

By MRS. JANET HULL ZIMMERMANN

WHEN IT BECAME KNOWN in the spring of 1946 that the City of Chicago proposed to buy from the Illinois Brick Company the right to dump garbage in the Touhy Avenue clay pit and eventually level it off for a park, nearby property owners and nature lovers throughout the city were alarmed.

The Touhy Avenue clay pit is now a wildlife paradise. It was taken over by nature when the Brick Co. abandoned operations here in 1930. They left an enormous hole, 77 acres in extent, and about 18 feet deep, bounded by Touhy Avenue on the north, McCormick Boulevard and the Drainage Canal on the west, Sacramento Avenue on the east, and Pratt Boulevard on the south.

Left undisturbed, nature went to work to heal the scars. The west side filled with water from springs. At the southwest corner it is now 30 to 40 feet deep. In the shallow marshy areas grew cattails and a variety of reeds and grasses. Willows, poplars and cottonwood trees sprang up in the dry sections. On islands and strips of dry land appeared low trees and shrubs. The east side, along Sacramento, is bordered by a honeysuckle hedge. When the Berry Bait Company leased the right to stock the waters with fish the setting was complete. Here was a perfect bird sanctuary and the birds lost no time in making use of it. Here they could rest and feed undisturbed on their long spring and autumn migrations. Here the resident species, hard pressed as they are nowadays by the destruction of their breeding areas, found a place to nest and raise their young. An ugly hole in the ground had quietly, almost imperceptibly, become a place of rare beauty.

On summer evenings one may sit on the rim and watch the graceful black and common terns plunge like arrows after fish. Kingfishers dash in pursuit of minnows, uttering their harsh rattle, and toward nightfall the big black-crowned night herons drift in from their heronry near Morton Grove. Swallows of every kind—bank, barn, tree and rough-winged, and purple martins—compete with the nighthawks and chimney swifts for flying insects. Down in the pit the dainty little sandpipers run along the edge of the water, teetering on their thin legs and calling their plaintive *peet-weet*. The secretive rails and bitterns slip stealthily through the reeds, to be found only by a quick eye. On the open waters you may see Bonaparte's and herring gulls, coots, mallards and pied-billed grebes with their coveys of fluffy young paddling along single file in the mother's wake. Red-winged blackbirds in great numbers, swamp sparrows, and marsh wrens nest in the cattails. Around the rim of the pit are nesting song sparrows, goldfinches, yellow warblers, killdeers on the prairies to the south, and many others.

One bird student has kept a record of 84 species of birds observed in one year in the pit and around its rim.

During the spring and fall migrations many rare visitors pause here to rest. The beautiful snow-white American egret, once almost exterminated by plume hunters, visited the pit in the fall of 1946. A Barrow's golden-eye and his mate, diving ducks which breed in high mountains or the far north, stopped for a week or more in the spring of 1947. This bird is practically unknown in the Chicago area. The honeysuckle hedge in May is all aflutter with warblers.

Here is a wildlife preserve ready-made. Since the Illinois Brick Co. is asking \$325,000 for its purchase, it is proposed that the City acquire it by condemnation proceedings, and make it a city park along the lines suggested by Mr. Wallace G. Atkinson, a landscape architect.

Do the people of Chicago want the stench and ugliness of a garbage dump for years to come in this neighborhood? Or do they want to preserve a generous and beautiful gift of nature? If you want the latter and are a resident of Chicago, please secure a blank petition addressed to Mayor Kennelly, have it signed, and return it to Mrs. Janet Hull Zimmermann, 1000 North Dearborn Street, Chicago 10, Illinois.

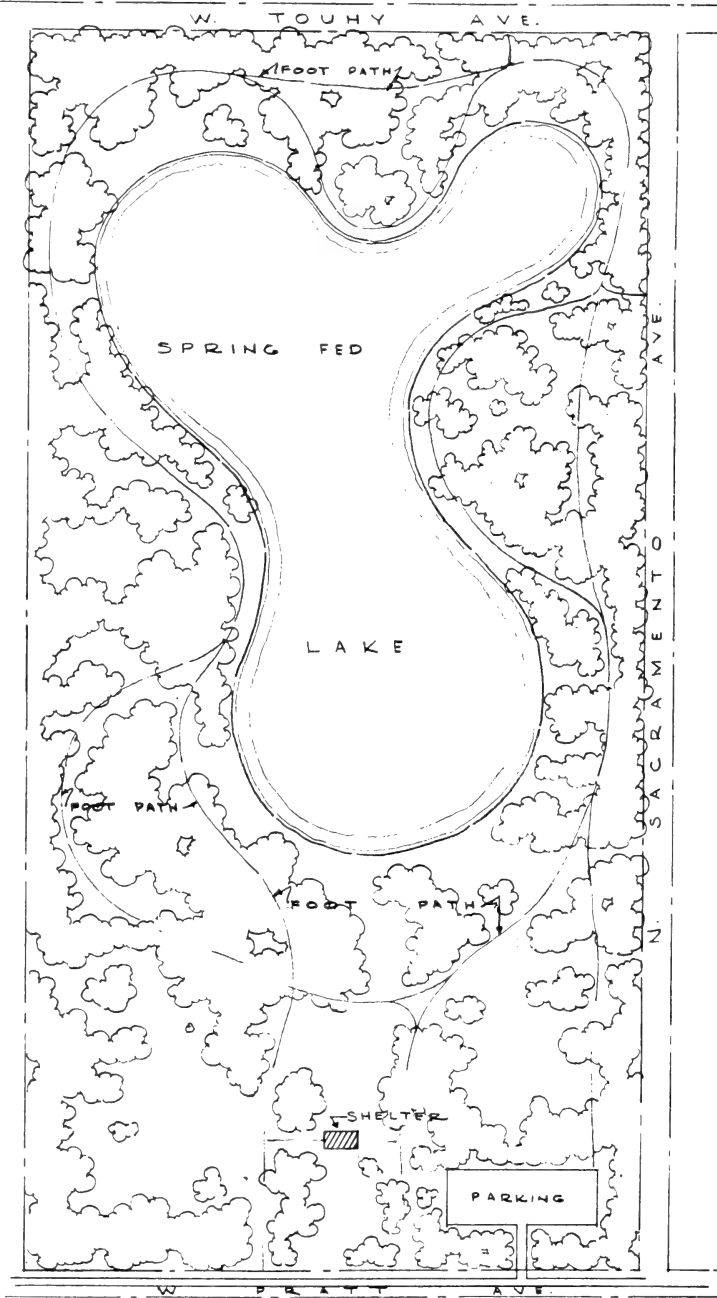
COMMERCIAL WASTELAND*

Recently in the news has been the proposed uses for a 76 acre tract of land and clay pit on the western edge of Chicago at Touhy Avenue and the Drainage Canal. This area, owned by the Illinois Brick Company, was the source of clay for brick manufacture, but has been inactive since 1930. The City of Chicago has proposed acquiring this property to use as a garbage dump. It has been stated City Engineers estimate the pit could be filled by garbage in seven years, grass sown and a park created. It is projected the fill-in method of disposal, which has been recommended by the U. S. Public Health Service, would be used. This method recommends disposing of the garbage in trenches to a depth of not more than 12 feet before being packed down and covered with at least two feet of clean earth. Nevertheless, the property owners in the adjoining neighborhood of attractive, well groomed homes are enraged.

The pit is fed by springs which keep the non-stagnant water level approximately 20 feet below the level of adjoining streets. In one section the water is reputed to be 40-50 feet deep, whereas in other parts it is not so deep but what marsh grasses and reeds thrive. Trees which remained from the time the pit was actively used, or took root before the water level raised, are being killed by the water and the barkless silhouettes stand out in contrast to the reeds and water below. The southern one-third of the area is several feet above the present lake level but still well below the streets.

How can this wasteland be utilized?

*By Wallace G. Atkinson, Landscape Architect, reprinted from Illinois Society of Architects' Monthly Bulletin, November-December, 1946.



PRELIMINARY SKETCH
FOR
A NATIVE PARK
CHICAGO - ILLINOIS



NORTH

W.G. ATKINSON - LANDSCAPE ARCHT
CHICAGO - DECEMBER 1947
MEMBER - AM. SOC. OF LAND. ARCHTS.

Classifying the natural terrain of Chicago as flat, the parks of this locality can generally be included in the same category. Trees, shrubs and open areas for active recreation are the component parts of most of these parks and variable only to the extent of neighborhood needs, amount of land and adjoining street patterns.

At the abandoned clay pit different conditions prevail. An area has served a commercial use, been discarded, and left for all to see how the ravages of man can despoil our landscape. Why not take the remains and adapt them to our use? We have a sizeable body of water which has already been discovered by birds; small fish abound within, and trees, shrubs and flowers struggle around the edges. Already a general wildlife character has been started and with some assistance it could be made an outstanding example of a new usefulness for a blighted landscape.

A sanctuary should be developed to encourage all types of birds into surroundings where enthusiasts might study their habits and enjoy their associations.

For commercial reasons the excavation was extended close to the adjoining streets. To allow for a border treatment clean fill should be brought in to enable the planting of native trees and shrubs. With an irregular shore line and spits of land extending outward from the shore, small bays could be developed to perfect the scenes and give the birds a chance to forage and nest. Native plants selected for edible fruits for birds would encourage the maximum number and types as well as serving to enclose a footpath idly winding through the area. With the use of plants of variable heights, and new fill placed with regard for pleasant contours, the results would add materially toward a native scenery.

At the southern end of the site, which was previously mentioned as being several feet above the lake, could be made the park entrance. Here could be placed a modest shelter, parking space and the beginning of the footpath around the lake. Excessive filling and construction here would not only place this park in the same category as most parks around Chicago but spoil the character which has been started by nature without solicitation.

This western section of the city adjoining the clay pit already has the active recreational types of parks. A small neighborhood park where an enclosed children's play area, shelter building and general sitting area has been developed is immediately south of the pit. A half-mile to the east, in a more densely populated neighborhood, is the Indian Boundary Park, containing a miniature zoo of bear, deer, fox, etc., tennis courts, wading pool, play areas and a social building. With such facilities in the neighborhood, an informal and natural treatment of an area which already possesses the basic features for such a development would round out the recreational activities for this section of the city and give the residents another source of pride in their locality.

With the pit located on the western edge of a residential district and on the eastern edge of the drainage canal and McCormick Blvd., proposed as an expressway on the Comprehensive City Plan for Chicago, the geographical as well as natural features ideally suit the development of a bird

sanctuary on this waste land. Here would be a park for Chicago unlike any other in this area and making use of a wasteland which has performed its commercial duties.



Two Amateurs Pursue Western Birds

By MRS. BERTHA HUXFORD

WALT AND I LEFT EVANSTON for the Pacific coast the evening of the Fourth of July. We took the Challenger, a tourist train of twenty-three cars. It labored its way west through Omaha, Cheyenne and Ogden to San Francisco. We were soon pleasantly surprised to see that it was not too difficult a task to identify a few birds through the train windows and at the longer stops along the way. We kept ourselves bird conscious by spending some time in studying "The Western Bird Guide" by Reed, Harvey and Brasner, "A Field Guide to Western Birds" by Peterson, and "Birds of the Pacific States" by Ralph Hoffman. We gave special attention to the lists made, when they had visited California, by Mrs. A. H. Knox and Mrs. Charles S. Braden, members of the Evanston Bird Club.

The many doves flying through the air or perched on telephone wires also kept our thoughts turned to birds. Almost any time we wanted to look out of the train windows (most of the time they were not too dirty) we saw a couple or more doves. Then, while traveling through Wyoming, came our first new acquaintance. It was a black bird with a very long tail and large patches of white showing on its wings and belly, the American magpie. Shrikes claimed out attention, first the white-rumped, later the California. While our long heavy train crawled over Great Salt Lake and the adjoining Flats I began to have an eerie feeling and was glad to center my attention on the Franklin's gulls standing about on the salty bars. Herring gulls, California gulls, blue herons, snowy egrets, and cormorants were the only ones we were able to identify among the many shore and water birds which we saw on small bodies of water as we came closer to the Pacific ocean and San Francisco.

House finches or linnets were the first birds to greet us when we looked out of the windows from the room assigned to us at Hotel Durant in Berkeley. One block from this hotel, on the University of California campus (shrubbery, trees, grass, hills, small stream) we found the California jay, western robin, English sparrow, western song sparrow, barn swallow, western mourning dove, Brewer's blackbird and western flycatcher. In the afternoon, while taking a Gray Lines tour of the city of San Francisco, we saw a California yellow warbler, eastern sparrow hawks on the slope of Telegraph Hill, and when we visited Cliff House we found Farallon cormorants, California brown pelicans, California gulls and western gulls.

Leaving the gulls and other water birds until we visited the coast farther south, we journeyed inland via the San Joaquin daylight train to Merced. From here we rode in a bus to Camp Curry in Yosemite Valley, Yosemite National Park. The following day we toured the park in an

open top touring car, driving back to the railroad at Fresno. We identified eleven species of birds during those two days, making the most of the hour of daylight after getting ourselves settled in a log cabin at Camp Curry, and of the time from the many short stops along the way. In Yosemite Valley we saw many blue-fronted jays, fairly large numbers of western robins, house finches, and several eastern sparrow hawks. We failed to identify a female warbler feeding a young bird, but had better luck with the western wood pewee.

While driving through Yosemite we saw western meadowlark, and Walt spied a pair of California woodpeckers on top of a telephone pole during one of our "ten minute stops" along the way. Others we saw were California purple finch, Thurber's junco, California yellow warbler and Audubon warbler. We had lunch on the patio of Big Tree Lodge in the midst of the Mariposa grove of big trees. While we were eating our dessert a male western tanager flew in to make our acquaintance. The joy of this encounter somewhat took away the edge of our disappointment in not seeing more of the ninety-four species listed as either resident or summer visitants on the check list of birds from the "Bulletin on Birds of Yosemite" by M. E. Beatty and C. A. Harwell. This passing disappointment was completely forgotten in anticipation of seeing new birds in the Los Angeles region.

Here we observed birds in four different areas: Occidental College campus, Mt. Wilson State Park, Griffith Park (a city park in Los Angeles), and in Santa Monica.

Alone I sallied forth to visit Occidental College campus of 110 acres, consisting of shrubbery, parking lots, lawns, trees, open hill country, ravine, fountain and extensive watering system. It was July 11, 8 A.M., temperature 70°, little wind and no smog. I heard all kinds of bird voices around me and became over-anxious about actually finding out what made them. The birds occurring in largest numbers were: house finch, California jay, California brown towhee, English sparrow, western mocking-bird, black-chinned hummingbird, Brewer's blackbird and dove. A pair of doves flew over me as I was sitting in the shade of a live oak. We had seen so many doves as we rode through the country. Quite suddenly it occurred to me to consult "Peterson" and read about doves. I found there were two that I should especially look for in addition to the western mourning dove—the Chinese spotted dove and the ringed turtle dove, both introduced to this area. I soon found a Chinese spotted dove but was never lucky enough during my stay to locate a ringed turtle dove. Others seen this morning were: ash-throated flycatcher, black-headed grosbeak, black phoebe, San Diego titmouse, red-shafted flicker, Thurber's junco, California thrasher and California quail. One early morning a few days later my daughter and I drove through this campus and came upon several families of California quail. We sat in the car watching their antics and also had a fine view of a California thrasher that hopped out to share their company. He had played hide and seek with me several times the other day and I felt happy to have at last caught him unaware.

On Sunday, July 13, we drove up to Mt. Wilson State Park, about twenty-five miles up a mountain from Pasadena. We reached there in mid-afternoon and the birds were fairly active. We saw black-headed grosbeaks, western robins, western bluebirds (a most brilliant blue), mountain chickadees, Brewer's blackbirds, Thurber's juncos, blue-fronted jays and California jays. This was the only place we found two species of jays mingling together.

The next day Walt and I visited Griffith Park. On our way there we stopped by the Los Angeles River, but it was completely void of any bird-life, a mere stream banked by high cement walls. We arrived at the bird sanctuary in the park about 9:30 in the morning. It was a little warmer today and a slight wind was blowing. We listed fifteen species in the sanctuary and surrounding hills, those new to our list being, mallard duck, Nuttall's woodpecker, pallid wren-tit, Sacramento towhee and green-backed goldfinch.

A kind friend and member of the bird club of Santa Monica guided me around to some of the good spots for observation in beautiful Santa Monica and Westwood. We picked a poor day as it was not only hot but windy as well. In Westwood we visited a little valley below an open reservoir. It was enjoyable to again see many of those we had seen before and to add as new ones on our list the bush-tit, white-crowned sparrow and Arizona hooded oriole. Santa Monica beach was crowded with people, gulls and brown pelicans. We drove over to Will Rogers' ranch, usually a good place to find birds, but we were disappointed as it is not open to visitors on Monday, the day we were there.

The "red letter day" of our vacation was spent in driving from Los Angeles to San Diego and back. We started at six in the morning, July 19, driving through a heavy smog for several hours. There was little wind, temperature between 65° and 70° most of the time. We followed alternate highway 101, past orange groves and oil wells, along the coast of the Pacific Ocean. Our first stop for bird observation was at San Juan Capistrano, a few miles inland. Here was a well cared for garden spot, lovely shrubbery, trees and several fountains, the home of doves, finches, hummingbirds, sparrows and the renowned swallows. The many hummingbirds here gave us an opportunity to study them, especially black-chinned and Anna's, males and females, young and old. Our second stop was close to Carlsbad Beach State Park. Along some backwater beside the highway we found a bird protection area. Birdlife was abundant and our count included Brown's tern, sanderling, marbled godwit, black-necked stilt, killdeer, ruddy duck, coot, California gull, Pacific kittiwake, white pelican, long-billed curlew, western gull, California heron, pied-billed grebe, American egret, Heerman's gull and American raven. An hour here on our return trip gave us no new birds.

But new birds we still hoped to see as we started our trip home via the Santa Fe railroad. We identified at least twenty-five species, those we had not listed previously being: western turkey vulture, ferruginous rough-leg hawk, Scott's sparrow (Seligman, Ariz.), Cooper's hawk, Treganza's

heron (out of Winslow, Ariz.), western crow, Arkansas kingbird, band-tailed pigeon and desert sparrow hawk.

Our adventures with western birds were over. They are represented by a check list of eighty-four species, of which sixty-two are new acquaintances. The friendly little house finches, unobtrusive brown towhees, busy little hummingbirds, noisy blue-fronted jays of the mountains, California jays, black-headed grosbeaks, gorgeous western bluebirds, and all the rest of them remain happy memories of an exciting vacation pursuing birds for the first time in sunny California.



Trail Ride in Colorado

By MILLICENT STEBBINS

THIS ARTICLE is an account of a horseback ride among the high mountains of Colorado and is in no way an article on birds. It was impossible to carry binoculars. By the time they were strapped tight enough not to bounce and hurt either the rider or the horse they could not be secured at a moment's notice and the bird was gone. Another reason for their non-use was the fact that we were riding near or above timber line and birds were very scarce. We were also a large group and what birds there were discreetly withdrew. One day the leaders saw ptarmigan, and another day water ouzel. Once I spied what might have been an eagle, but at that instant we struck a very ticklish place in the trail and not even a condor would have distracted my attention from my horse. So I had to forego my joy in bird study for other natural delights.

The Trail Riders met for the first time in the Colorado Hotel at Glenwood Springs at nine o'clock on the evening of August 14, 1947. There were twenty riders and a "crew" of thirteen. Most of the latter were not present. The riders came from all parts of the country, from San Francisco to New York. We felt very safe when we found out that four were doctors. There were also an "official" doctor, who was a member of the crew, and two dentists. Four or five were teachers and the rest were a British Consul from Denver, a woman painter, and several students. From Washington came a representative of the American Forestry Association, under whose sponsorship these trail rides are held.

The active head of the expedition, the boss of everyone and everything, was Mrs. Rich Thompson of Glenwood Springs. She is a remarkable woman. When her husband became blind she took over his work of outfitting and conducting trail rides and other wilderness parties. She is a very pretty, delicate woman, an expert horsewoman, an experienced guide, and an excellent cook. She took the responsibility for everything.

Under "Tommie", as she was called, was her young son Bob. He was in charge of the horses and the wranglers. As there were seventy-two horses and six very young wranglers, Bob had his hands full. The cook and his two assistants helped him in conducting the pack train.

At our first meeting each of us gave the name by which he wanted to be called. Most gave their first names, but some had special nicknames; I went by the name of "Stebby". Nobody was ever called Mr. or Mrs., and we met on a frinedly footing right at the start. We were given some instructions about equipment, with all of which I had already complied except providing myself with a pair of rubbers. I rushed to town by the time the stores opened the next morning, only to find that either the stores did not have any rubbers or could not fit me. I missed the rubbers sadly on the trip.

We had each received a schedule of the trip, but Al, the Forestry representative, informed us that it was a schedule to be varied from rather than to be followed. There were no rigid hours. We were ready at the door of the hotel the next morning at nine-thirty with our fifty pounds or less of baggage, consisting of a duffle bag and a bedroll. We did not get started until almost eleven. Bob had to drive seventy miles that morning to secure a new wrangler as one of his men was sick in the hospital with pneumonia.

We piled into the special bus which was to take us to the place where we were to pick up the horses—about fifty miles away. Of course the bus broke down, but after a little while down and under the driver got it started again. We arrived at a beautiful grassy spot and here we had our first open air lunch. It was typical of every one that followed. We made our own sandwiches. There were plates of bread, butter, sliced ham, onions, tomatoes, cheese, and lettuce, and bottles or jars of peanut butter, horse-radish, and jelly or jam; cookies or raisins formed the dessert. There were two large Sinclair oil cans, very black on the outside with the smoke of many bonfires, and with heavy chains for handles. One was for tea and the other for coffee. Bill, the British Consul, insisted on making the tea. I don't know who drank it; I didn't. He boiled the water and then boiled the tea five minutes. The coffee was delicious.

After luncheon we got our horses. This part was beautifully organized. Each horse had a number painted on its flank in large figures and the same number written on a piece of adhesive tape on the saddle. The horses had all been assigned in advance. We were required to give our age, weight, and riding experience when we applied for the Trail Ride. When one roly-poly horse was brought out I was afraid my name would be called, and it was. No. 39, or "Billie the Kid", turned out to be a fine horse and not so hard to straddle as I had feared. He was very easily managed, kept up with the others without any urging, and had a nice trot. He was gentle without being slow. He did not like going down steep grades and would make something like a grumbling noise; his rider was in full sympathy with him. Everyone seemed to be perfectly satisfied with and to grow very fond of his own horse. I heard no complaints.

We had a short ride that afternoon and made our first camp at Conundrum Creek. We sat on logs around a huge bonfire and enjoyed a good dinner. It was chilly but not cold. We had not yet reached the high altitudes at which we camped thereafter, those of 10,000 and 11,000 feet. Only twice did we go down as low as 9,000. We slept in our bags that

first night and I gave my tent-mate a lesson in astronomy. That was our only night out. The dew was heavy and in the morning we found our poncho covering very wet.

We rode up to Electric Pass, the highest horse pass in the state, but it was not safe to ride over it. There had been much rain and the ground was soft. The riders might have made it, but it would have been impossible to get the pack train over. That caused our first departure from our printed schedule. While we were eating lunch at the foot of the pass a slight rain fell. It was a preparation for many meals to follow. We rode down the mountain and camped at Conundrum Hot Springs. On the way we got into a hornets' nest and one stung my horse's nose. He pranced and bolted against a tree where he could rub it. Tommie saw what was happening and yelled for us to ride out of there as quickly as possible. The hornets in that country seem to nest on the ground.

At Conundrum Hot Springs a small pool has been roughly enclosed with a stockade and a nice bathing place formed. The men appropriated it at once and it was in constant use until dark. It was at a considerable distance from the camp, up a stream and across rocks and mud. We women protested and got the use of it the next morning from five-thirty until seven-thirty. It was the only hot bath we had on the whole trip and we regretted that it came so soon. May I add here that the lakes and streams at those altitudes were altogether too cold to bathe in. Most of the men had been in the war and were accustomed to bathing in three cupfuls of water in a helmet. One lad had been in the African, Sicilian and Italian campaigns, and had not had even his shoes off in a month. We thought we could get along for thirteen days, but we are unwilling to confess how much even face and hand washing was omitted. And certainly no one went down to the creek after dark to brush his teeth.

This third morning was cold and foggy. We riders had eaten our breakfast, done up our bedrolls and duffle bags, carried them to the assembling place; and were ready to start by eight-thirty. But two of the horses were missing. It had been difficult to find them all in the fog. Another one was sick. He stood trembling and opening and closing his mouth constantly. Whether he had colic or had eaten the poisonous larkspur made no difference, the treatment was the same—turpentine administered both inside and out, coffee with milk, a gallon of soapy water, and a pound of oleo. He improved slowly, but it was several days before he could be ridden. He belonged to Doc, a big fat jolly man weighing 220 pounds. There was a lot of teasing him about his being able to walk to the next camp, some fourteen miles away. The real spirit of the group was shown when young Dick Markley said that if anyone had to walk, he was going to do it. He was certainly thinner if not younger than Doc. Another horse, however, was supplied, the missing horses turned up, and we were off. Just as we started we noticed that the clear mountain stream beside which we had camped had suddenly turned green. It was a bright green where the water flowed swiftly and a deep green in the still places among the rocks. It was a weird spectacle. There was evidently some eruption taking place under

ground at about the location of the hot spring. Above that the water was still clear, but it was green as far down stream as we could see and continued so until we rode out of sight.

The ride that morning was through the most beautiful alpine meadows I had ever seen. The variety and profusion of the wild flowers was beyond description. The mountain sides were veritable gardens of blue penstemon, purple asters and Indian paintbrush, ranging from red and yellow to all shades of pink and magenta. This last flower was truly glorious and I had not been enthusiastic about its red shades here in Illinois. We realized why the columbine was the state flower of Colorado. There were great hill-sides of it, usually white where it grew in bright sunlight, but developing beautiful blue colors in the shade. We were too high for the wild geranium which is so profuse at about 8,000 feet. Wild buckwheat furnished the white color in Nature's gardens, and it was everywhere. Little red elephant's heads were still in bloom, and even Parry's primrose appeared at our greatest elevations. At the town of Gothic, through which we rode later, there is a summer school for the study of biology, ornithology and geology. It had closed when we reached there, but we talked with one of the professors of botany. She had identified almost 500 species of plants and trees this summer. There were a half dozen camera fiends in our group and they were always busy whenever we came to these wonderful meadows.

When we reached the beginning of Triangle Pass and saw above us the zigzag of the trail on the bare talus slope, several of the camera people lingered behind to take our pictures as the rest of us wound our way up and over the 13,000 foot ridge. A great panorama broke on our sight at the top but it was so cold and windy that we could not tarry, and besides, the next rider coming up was pushing the one ahead along. It started to rain a little and we hurried down to a green spot for lunch. A fire was started and we made coffee. Then it began to pour. We made and ate our sandwiches, protecting them as best we could, rain drops splashing in our cups. The afternoon was foggy and we knew that we were missing fine scenery. We had to keep close together so as not to get lost in the fog. The rain had stopped when we rode into camp at Copper Lake. The pack train had preceded us and the tents were up, but everything was in a mess. There was mud everywhere. There had not been enough covering for all of the packs, and my bedding had been one of those exposed. The bag in which I kept it was wringing wet. Fortunately the water had not yet penetrated the water-repellant but not water-proof covering. It rained on and off (mostly on) for the next twenty-four hours and we wondered why we had come on such a fool trip. The water poured in the seams of our tent, ran all around the sides, and there were two streams diagonally across the canvas floor. Marie kept bailing out with her drinking cup while we tried to keep the beds and duffles in what dry spots there were. When it poured all twenty of us huddled in the relatively large tent in which four of the wranglers slept, and which had a small stove at one end. It was dark, muddy, chilly, and dreary. When it did not rain we went out to the bonfire and dried our wet clothes. A ring of sticks was stuck in the

ground around the fire and on each reposed a riding boot. Everyone was holding up socks, riding breeches, ponchos, blankets, etc. If it started to rain we got under the trees, but there we froze. The fire with the rain was preferable; unfortunately we could not build the fire under the trees. In spite of all this discomfort I heard no grumbling. I suppose this was nothing to the war veterans, and the rest of us just went along with them. Toward the end of the trip we had a "stunt night" and Bill read some advice to the Forestry Association. Among other things he recommended that in their announcement pamphlet they guarantee "air conditioning and running water in every tent."

After two nights at Copper Lake we left on a clear morning for the ghost town of Gothic, mentioned above, and for Schofield Basin. It was a glorious ride, one of the loveliest of the entire trip. We rode high above a green valley, through lush vegetation. The horses were in ecstasy, grabbing mouthfuls of wild celery, thistles and grass as they trotted along. My Billy would stop to eat no matter what I could do and then, like a naughty child, would almost run to catch up with the rest. We rode into another hornets' nest. This time it was Enid's horse that was stung and he began to rear and prance. Tommie, ever on the alert, saw him and called to Enid to let him run. But Enid was a little deaf and did not understand. She tried to hold the horse in and to brush off the hornets. The result was she was thrown. Fortunately she was not hurt, but it gave us a bad scare. That rather marred an otherwise perfect day. But there was worse to come.

When we reached camp, part of the pack train was not in. Of course, *our* baggage was among that which had not arrived. We waited and waited. It grew dark. No supper was served. Tommie confessed the next day that she was petrified. She had heard of baggage scattered all along the road from the last camping place or in the stream, but nothing like that had ever happened to her. Finally one wrangler rode in and we saw him fall from his horse. The men rushed up and surrounded him. We heard him yelling and sobbing. Bob called "Doc! Doc!" Our blood ran cold. Then one of the men came back and reported that the fellow was drunk. He mounted his horse again and rode off, still yelling and weeping. But there had been a real accident. Two other wranglers had also gotten drunk and one of them, a lad of sixteen, had fallen off his horse and rolled down twenty feet into a gulley. The other, somewhat under the influence of drink but not so entirely gone, had recovered the horse which had wandered away and had helped the lad back on it. But he was a new wrangler and did not know the way into camp. Bob and Doc soon found them and brought them in. There were no broken bones, but the lad was thoroughly bruised and was very lame for several days. The matter was rather hushed up and I never learned when or how the pack animals arrived.

We lay over for another day of rest at Schofield Basin. Half-a-dozen members of the party climbed one of the mountains for the experience and for the view. When Newt came back exhausted, he said that he had made

two climbs that day—his first and last. Those of us who did not climb rode up and had almost as good a view.

Our ride from Schofield Basin to Crater Lake took us over West Maroon Pass, one of the highest and steepest. Even Billy hesitated before taking the first downward step after reaching the knife-like edge of the summit and then began groaning. I was glad when we were down. At Crater Lake we had more rain and our morale almost broke. Maroon Bells Mt. and the lake were magnificent when we could see them.

We lay over for another day hoping for clear skies for the ride over famous Buckskin Pass to Snowmass Lake, and we got them. Buckskin Pass, although over 13,000 feet high, was comparatively easy. The grades were not so steep, and there was plenty of room at the top for a long stay. Wally, a very shy, silent, seventeen-year-old boy was riding behind me. When we reached the top and the great panorama of Snowmass, Capital, Cathedral, Maroon Bells, etc., was revealed, I heard him exclaim, "My God!" He expressed my feelings, too. There were fourteen peaks over 14,000 feet high to be seen. Here was the only place I felt the altitude or the entire trip and I yawned and yawned, as did the others. The youngest member of the group, a girl of fifteen, was overcome. The doctor gave her something but it was some time after she got down before she felt all right again.

I neglected to say that at Crater Lake we lost five horses. The boys rode all day hunting them during our day of rest there but we had to move on without them. That meant turning pack horses into saddle horses and loading the other pack horses more heavily. Probably the riders felt worse than the crew because they had had no previous experience in such matters.

Snowmass was *the* beauty spot of the trip and deserves an entire article by itself. We stayed there three nights and had no rain! Everything was perfect. Only at the very last did the skies cloud over, figuratively speaking. Five more horses were missing, plus those of the four wranglers who had gone out to look for them and for the first five horses which had now been lost for four days. It was impossible to proceed and we waited all morning. Half-a-dozen agreed to walk to the next camp, but while we were eating lunch all ten horses were brought in and great was our rejoicing. The balance of the trip went off very smoothly.

We camped for our last night in Lead King Basin, had lunch our last day in Thano's, the cook's yard, in Marble, gave up our dear horses, and took the bus to Glenwood Springs. After a farewell dinner at the Colorado Hotel seven of us departed on the midnight train for Denver. Those who were left were at the station and gave us a grand send-off, singing and yelling for a half hour, until the train carried us off into the night.



THE IDEAL OBSERVER brings home a finer game than ever fell to shot or bullet. He has an eye for the fox, the rabbit and migrating waterfowl, but he sees them with loving and not with murderous eyes.—*John Burroughs.*

Christmas Census — 1947

ONCE MORE we give you the results of the efforts of a number of those whose enthusiasm carried them into the field during the recent census season. The near-blizzard of New Year's Day probably interfered with the plans of some and fewer reports have been received. Inasmuch as those received are concentrated in the northeast section of the state no satisfactory comparison with previous years can be made.

In two cases approximately the same locations were covered, but on different days, and the differences in the listings are very interesting as showing that probably no party, large or small, ever finds all of the birds in any territory in one visit.

The twelve reports list some 10,500 birds, not including a raft of some 2,000 ducks reported as "not identified," and which are not included in any totals. Of the 10,500 the great majority are water birds—geese, ducks and gulls of various kinds—and add up to nearly 8,600 of the grand total, leaving only a little more than 1,900 for all the others.

On the other hand, there are nine species that are represented by only one individual each: Cooper's hawk, bald eagle, glaucous gull, yellow-bellied sapsucker, short-eared owl, screech owl, robin, snow bunting and white-throated sparrow. Carolina wren came in with two individuals in one report, while six other species in various numbers appear in but one of the twelve lists.

The bird showing in greatest numbers (3,461) is the herring gull, but the bird appearing most often is the black-capped chickadee which, with 95 individuals, found its way into ten of the twelve lists, closely followed by the downy woodpecker, with but 27 individuals, in nine lists, and the crow, with 249 individuals, in eight lists. The reports follow:

Blue Island, Cook County; in the vicinity of Oak Hill banding station and fields south and east; Dec. 21 to Jan. 2 (listing largest number seen in any one day); ground mostly covered with snow; temperature ranging from 40° to 18°. Red-shouldered hawk, 1; pheasant, 2; herring gull, 100+; crow, 5; black-capped chickadee, 1; tufted titmouse, 1; brown creeper, 1; starling, 800+; English sparrow, 50+; cardinal, 5; goldfinch, 5; junco, 15; tree sparrow, 15; song sparrow, 1; total, 18 species, 1,010 individuals. (15 red-winged blackbirds were seen on Jan. 4.)—Karl E. Bartel.

Channahon, Will County; along the towpath of the I & M Canal from the DuPage River to where the Kankakee and the DuPage merge to form the Illinois; Dec. 25; 1:30 to 4:30 P.M.; snowing most of the time; wind west; temperature 25°; 8 miles, made by auto only. Mallard, 300+; black duck, 50+; pintail, 150+; lesser scaup, 100+; golden-eye, 275+; ruddy, 1; hooded merganser, 1; American merganser, 15; red-breasted merganser, 75; flicker, 1; chickadee, 1; prairie horned lark, 150+; total, 12 species, 1,119+ individuals; there were approximately 2,000 additional ducks too far out for identification.—Karl E. Bartel.

Channahon, Will County; (Somewhat late for Christmas census, but sent in for comparison.) along towpath of I & M Canal and McKinley

woods; Jan. 11; 10:30 to 3:00 P.M.; temperature 28°. Mallard, 22; black duck, 7; ring-necked duck, 39; lesser scaup, 2; golden-eye, 6; hooded merganser, 8; American merganser, 28; Cooper's hawk, 1; red-tailed hawk, 1; rough-legged hawk, 1; bald eagle (adult), 1; sparrow hawk, 1; herring gull, 11; flicker, 1; downy woodpecker, 1; crow, 75; chickadee, 5; tufted titmouse, 3; starling, 11; English sparrow, 5; cardinal, 2; junco, 20; tree sparrow, 15; total, 23 species, 261 individuals.—Miss Leona Draheim, Karl E. Bartel.

Chicago, Cook County; Calumet Lake, along Doty Avenue; Dec. 27; 3:30 to 4:00 P.M.; southwest wind; temperature 32°; south half of lake open; 4 miles by auto, stopping only long enough to observe birds. American merganser, 6; red-breasted merganser, 10; coot, 2; herring gull, 3,000+; starling, 200; English sparrow, 100; total, 6 species, 3,318+ individuals.—Karl E. Bartel.

Glen Ellyn, DuPage County; about city and on road to and in Morton Arboretum; Dec. 29; wind southeast, about 11 miles per hour; temperature 24° to 32°; on foot in the Arboretum about 4½ miles. Marsh hawk, 1; sparrow hawk, 1; long-eared owl, 1; hairy woodpecker, 1; downy woodpecker, 1; blue jay, 3; crow, 53; chickadee, 13; tufted titmouse, 2; white-breasted nuthatch, 2; red-breasted nuthatch, 2; Carolina wren, 2; golden-crowned kinglet, 6; starling, 3; English sparrow, 30; cardinal, 15; purple finch, 4; junco, 16; tree sparrow, 13; total, 19 species, 169 individuals.—Benjamin Gault Bird Club, Mrs. Harry Pearce, Mrs. C. C. Choyce, Mrs. H. B. Davis, Mrs. H. E. Davis, Mrs. W. E. Stofer, Mrs. R. A. VanLone, Mrs. F. W. Homan.

Joliet, Will County; Pilcher Park Arboretum; Dec. 25; 9:00 A.M. to 1:00 P.M.; snowing lightly most of the time; west wind; temperature 22° to 25°; 13 miles (10 by auto, 3 on foot); observers together. Yellow-bellied sapsucker, 1; hairy woodpecker, 3; downy woodpecker, 2; blue jay, 2; crow, 28; chickadee, 4; tufted titmouse, 2; white-breasted nuthatch, 1; golden-crowned kinglet, 2; cardinal, 3; goldfinch, 1; junco, 60; tree sparrow, 2; total, 13 species, 111 individuals.—Mr. and Mrs. Campbell, Karl E. Bartel, Miss Leona Draheim, Mrs. Amy Baldwin.

Lake Geneva, Wis.; around entire lake by car (lake front 30%, cattail marsh 10%, swamps 25%, open farmland 5%, tamarack swamp 5%, deciduous woods 25%); Dec. 21; 7:00 A.M. to 4:30 P.M.; clear; temperature 25° to 30°; wind, none to west 5 miles per hour; lake entirely open; both observers together; 33 miles (25 by car, 8 on foot). Pied-billed grebe, 42; Canada goose, 750; mallard, 250; black duck, 200; ring-necked duck, 11; canvas back, 23; scaup, 15; golden-eye, 250; bufflehead, 50; ruddy, 35; hooded merganser, 47; American merganser, 100; red-breasted merganser, 3; red-tailed hawk, 3; sparrow hawk, 1; ring-necked pheasant, 1; coot, 1,500; herring gull, 175; ring-billed gull, 1; flicker, 1; downy woodpecker, 2; blue jay, 1; crow, 15; chickadee, 15; white-breasted nuthatch, 2; brown creeper, 3; English sparrow, 25; cardinal, 3; goldfinch, 35; junco, 11; tree sparrow, 75; song sparrow, 2; total, 32 species, 3,662 individuals.—Earl Anderson, C. O. Palmquist.

Lisle, DuPage County; 800 acres within Morton Arboretum; Dec. 28; 9:00 A.M. to 3:30 P.M.; clear; west wind; temperature 33°; ground bare; observers mostly together, using eleven autos; 16 miles (10 by auto, 6 on foot). Red-tailed hawk, 1; sparrow hawk, 1; long-eared owl, 3; short-eared owl, 1; downy woodpecker, 2; blue jay, 3; crow, 18; black-capped chickadee, 6; tufted titmouse, 1; white-breasted nuthatch, 1; red-breasted nuthatch, 2; brown creeper, 1; golden-crowned kinglet, 10; cedar waxwing, 25; cardinal, 14; purple finch, 2; goldfinch, 7; junco, 100; tree sparrow, 4; song sparrow, 1; total, 20 species, 203 individuals.—Chicago Ornithological Society, Karl E. Bartel, Field Chairman, and M. V. Nature Club, 36 members and friends of the two groups.

Orland Park, Cook County; Orland Wildlife Preserve; Dec. 26; 8:45 to 9:00 A.M. (just a 15 minute stop); snowing slightly; lake frozen over; Bartel on west end, others on south end. Red-shouldered hawk, 1; marsh hawk, 1; downy woodpecker, 1; chickadee, 2; golden-crowned kinglet, 3; snow bunting, 1; total, 6 species, 9 individuals.—Mrs. Amy Baldwin, Miss Leona Draheim, Mr. and Mrs. Campbell, Karl E. Bartel.

Palos Park, Cook County; covering five bird-banding and feeding stations in Palos Park; Dec. 28; sunny and clear; temperature 22° to 32°. Black-capped chickadee, 47; downy woodpecker, 15; junco, 14; white-breasted nuthatch, 7; tufted titmouse, 6; brown creeper, 2; crow, 50; hairy woodpecker, 3; cardinal, 2; hawk (?), 1; white-crowned sparrow (seen by Mrs. McQuarrie at her feeding station, Dec. 22), 1; robin, 1; red-winged blackbird, 1; total, 13 species, 150 individuals.—Alfred H. Reuss, Frederick C. Labahn.

Tremont, Lake County, Ind.; north end of Indiana Dunes State Park; Dec. 27; 10:00 A.M. to 2:30 P.M.; bright sunshine; snow on ground in shaded spots; southwest wind, 10 miles per hour; temperature 29°; 8 miles (5 by auto, 3 on foot). Bufflehead, 3; old-squaw, 9; rough-legged hawk, 1; herring gull, 3; downy woodpecker, 1; chickadee, 1; golden-crowned kinglet, 1; total, 7 species, 19 individuals.—Karl E. Bartel.

Waukegan, Lake County; Lake Michigan harbor, woods and fields, open water at Public Service plant; Jan. 10 (trip delayed due to extremely bad weather); 9:00 A.M. to 3:00 P.M.; clear; ground covered with snow; north-west wind; temperature 30°; 34 miles (30 in car, 4 on foot); observers together. Mallard, 10; black duck, 1; ring-necked duck, 10; canvas-back, 1; lesser scaup, 100; American golden-eye, 30; bufflehead, 2; old-squaw, 45; ruddy, 5; American merganser, 15; red-breasted merganser, 6; red-shouldered hawk, 1; rough-legged hawk, 1; sparrow hawk, 2; pheasant, 7; herring gull, 175; glaucous gull, 1; ring-billed gull, 3; Bonaparte's gull, 3; hairy woodpecker, 1; crow, 5; red-breasted nuthatch, 2; starling, 11; English sparrow, 10; red-winged blackbird, 14; tree sparrow, 15; total, 26 species, 477 individuals.—Miss Leona Draheim, Mrs. Amy Baldwin, Miss Stebbins, Mr. and Mrs. Albert Campbell, Mr. Young and daughter Bonny, and Karl E. Bartel.

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

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Florida, the "Vanishing Eden"

By JANET HULL ZIMMERMANN

FLORIDA, "THAT VANISHING EDEN," is still a bird lover's paradise. But the rarer wild things have retreated farther and farther from the highways. The traveler whose time is limited, and who is more interested in egrets and spoonbills than he is in dog races, tropical night clubs, and bathing beauties, requires experienced leadership to find the delights that still await those who seek them.

The National Audubon Society provides that leadership in its Wilderness Tours. I was already "sold" on the Society after two weeks at the Nature Camp in Maine last summer. I am more sold than ever after taking the tours to Lake Okeechobee, and to the Everglades and Florida Bay.

With Mrs. Amy Baldwin, one of the most skillful field observers in the Chicago Ornithological Society, I made the trip to Florida the middle of March. We left Chicago shivering in a temperature of one degree, and wasted no time in starting a list of train window observations. Mrs. Baldwin took one side of the car and I took the other, occupying various seats whose owners were in the observation car. Every time one of us shouted, the other scrambled over to the opposite side of the car. We explained early in the day to our startled fellow passengers that we were only mildly crazy, and that they could safely ignore us.

Indiana was populated with myriads of crows, starlings, few flocks of dainty, bounding horned larks, and an occasional flicker, red-tailed and marsh hawk. Near the Ohio River we met our first grackles and mourning doves of the season.

We woke up the second morning in the piney woods that lie across the Georgia-Florida boundary. Our first American egrets appeared in the swamp water along the tracks. They rose heavily as the train roared past, and slipped into the darkness of the woods. As the woods and water withdrew from the tracks, off in the distance across the flat prairies we could see the white forms of birds. Were they American egrets, white ibis, or wood ibis? We couldn't tell. The smaller birds could be snowy egrets or immature little blue herons, but we were unable to distinguish them at a distance. On the wires perched mockingbirds and shrikes. They are the same size, and both have white breasts. When we couldn't see the black mask of the shrike we learned to distinguish them by the way they held their tails. The mocker seemed to wobble uncertainly, and wave his tail back and forth to keep in balance on the wire; the shrike held his tail steadily to the rear.

On the St. John's River at Jacksonville we saw our first water turkey, or anhinga, although we didn't realize at the time what it was. South of Jacksonville the train follows the Indian River for many miles. This is not a river, but a strip of ocean separated from the open sea by a chain of islands down the coast. Brown pelicans, cormorants, herring and laughing gulls, black and turkey vultures were abundant. Ward's herons (Florida "edition" of our great blue heron), more American egrets, one wood ibis and one golden eagle kept us shouting at each other.

We left the train at West Palm Beach to take a Greyhound bus to Okeechobee City, about two and a half hours distant. But we missed our connection by five minutes and had to wait five hours for the next bus. You could never guess how we killed those five hours! Right the first time! We took a local bus to Palm Beach and looked for birds. Caspian terns along the beach, myrtle and palm warblers in the hibiscus and bougainvillea of the gardens, were the chief finds. Back in West Palm Beach we rested in the park along the harbor and got acquainted with the big boat-tailed grackles. They were showing off for the females—strutting pompously across the grass, making sudden furious dashes at one another that looked like the start of a battle to death but was pure bravado, constantly calling raucous attention to themselves. The females of course ignored their foolishness. It took us a few minutes to realize that these modest birds in soft clove-brown and tawny dress were the mates of the far larger black birds.

The Okeechobee bus got us to the Southland Hotel at 10:30 at night, considerably the worse for wear after a very long, strenuous day. But a good night's rest restored all our enthusiasm. At 8:30 next morning we were introducing ourselves to anyone who carried binoculars and waiting impatiently to be off. Alexander Sprunt conducts the Okeechobee trip. We were seven in the party, in addition to Mr. Sprunt, who drove the station wagon. The thrills began immediately as Mr. Sprunt drove along the north shore of Lake Okeechobee. The birds were so numerous that he wouldn't let us waste time or eyesight on anything distant. "Wait until we get them closer" he kept insisting. We who are accustomed to catching our rare treasures when we first spot them, regardless of distance and light conditions, could hardly accustom ourselves to the ease and profligacy of Florida bird chasing. We didn't even "chase" them. We simply got out of the station wagon, and there on the marshes beside the road they displayed all their beauty for as long as we cared to watch them. Mr. Sprunt had to drag us away from every stopping point. We couldn't believe that there was anything half as good ahead. In one spot we would see clouds of American and snowy egrets, little blue herons in both immature white and mature plumage, Louisiana herons, white ibis and big wood ibis, which are not ibis at all but America's only stork. We went into ecstasy over the black-necked stilts. We heard the limpkin, but had only a fleeting glimpse of it. In the course of the day we saw nineteen bald eagles. At one spot we had a most perfect view of the rare glossy ibis feeding only a few feet from the station wagon. Mr. Sprunt told us



Photo by Allan D. Cruikshank

Audubon's Caracara

that they were the prize of the day. No other trip had seen them at such close range, or under light conditions that showed so well their wonderfully rich chestnut, greenish and purplish colors. We had a picnic lunch on the banks of the Kissimmee River and walked for about an hour along the river. Mrs. Baldwin discovered a Kentucky warbler, the earliest record for it in the area. On the way home she suddenly shouted "owl". Mr. Sprunt stopped abruptly, but assured her she must be mistaken — there were no owls here. At that, a great horned owl flew out of a palm tree and settled on an exposed stump in the marsh. Another owl immediately joined it and began to feed it, pausing occasionally to eye us suspiciously. That was another record for the area.

In the evening after dinner Mr. Sprunt drove us through the woods on the edge of town to hear our first chuck-will's-widow.

The second day we drove north of the lake on the Kissimmee Prairie. The chief objectives of the day were Florida sandhill cranes and burrowing owls, and of course our leader produced them. The cranes were few in number, only eight individuals, but we had a good view of one group feeding under the palm trees, and another group in flight. The owls make their burrows in the loose soil along the road. One of our party was able to get many feet of moving pictures of them. They are most amusing little birds. They perch on the top of the burrow and watch you with their heads tilting slowly farther and farther around until you are certain they will topple over. Then they fly a short distance off. When they land they bob up and down several times like a small boy on a pogo stick. Audubon's caracara fed in the road immediately ahead of the car and flew quite indifferently over and around us. Ground doves, and the white-eyed vireo were treats for most of us.

The Kissimmee Prairie is Florida's ranch-land. It is not generally known that Florida is second only to Texas as a cattle-raising state. The stock is being improved by cross-breeding with thoroughbred Brahma bulls from India which are tick resistant and indifferent to heat. Seminole Indians are employed as cowboys. We visited one of their reservations where there is a school conducted by the United States Indian Office.

Small birds seen on the two-day trip were not numerous as we had only the lunch hour for hiking. Other water birds seen in ponds along the road included the greater and lesser yellowlegs, dowitcher, least sandpiper,

Wilson's snipe, Florida gallinule, blue-winged teal, shoveller and Florida black duck, and the ubiquitous coot.

As we drove up to the hotel on the evening of the second day, a great flock of perhaps 200 wood ibis flew across the road about a mile distant on the edge of town. The setting sun rimmed their wings with a golden light.

"And that," said Mr. Sprunt with a sweep of his arm, "is a fitting farewell to Okeechobee."

Next morning five of us hired a taxi-cab to take us to Fort Pierce. Mr. Sprunt had told us of a charming little lady, Miss Clara Bates, who had painted buntings at her feeding tray. We arrived about nine o'clock in the morning, fortunately for us, before she had fed her birds. When she had changed the water in the bath, and scattered the food on the tray and on the ground below it, she stood back in the bushes and called the birds. Her soft trills and purling throat sounds were as sweet as any bird's. Presently they began to call back to her. One by one they slipped out of the underbrush and shrubs. Cardinals and catbirds came first. An ovenbird timidly picked up the crumbs farthest under the shrubs and slipped back out of sight. The buntings were long in answering their mistress' calls. We were growing discouraged when the female finally hopped up to the edge of the tray. Having let his lady brave the dangers first, and having been assured by her that all was well, the male at last appeared. No color plate can give the slightest conception of this bird's breath-taking beauty. The colors shimmer as though they were alive. After he had fed, the gorgeous creature played in the bath while a catbird scolded from a nearby branch.

Back in Okeechobee we went our separate ways. We had a gap of eight days between the two trips. I spent the time in Gainesville visiting a friend. Here I saw Marjorie Kinnan Rawlings' Cross Creek country and bird-hunted on the Orange Lake she speaks of in her book. On the city limits of Gainesville is Paine's Prairie, the "Alachua Savanna" described in William Bartram's classic "Travels" published in 1791. I spent one delightful afternoon canoeing around Bivins Arm, a detached portion of Paine's Prairie which is still a lake. It is a protected area used for biological observation by the faculty of the University of Florida. A young biology professor who lives in the Arm, J. C. Dickinson, was my host. In the entertaining book from which I took the title of this article, "Florida, That Vanishing Eden," by Thomas Barbour, director of the Harvard University Museum, the author speaks several times of the Dickinsons and Bivins Arm. Purple gallinules were my big thrill here. We edged the canoe into the water-weeds only a few feet from them. There is also in the Arm a big rookery of "plume birds," ibis and water turkeys.

Meanwhile Mrs. Baldwin was visiting a friend in Sebring, who took her to another one of the state's many sanctuaries — Highland Hammock. She also stopped at Clewiston. Here she visited an island out in Lake Okeechobee where Everglade kites are to be seen, and took a long walk along the dike above the lake where she looked down on limpkins on their nests.

We rejoined each other in Miami for the second of the Wildlife Tours.

Two station wagons with about fifteen bird nuts made this trip under the leadership of Mr. Brookfield and his assistant George Burroughs. As we drove south toward Homestead they told us the scientific and common names of the many flowers, trees and shrubs, and told us the story of man's unforgivable exploitation of this beautiful land. Someone the week before had discovered a smooth-billed ani in a particular field a few miles from the highway, picking ticks off the back of a particular cow. Did we want to take the additional time on the chance that it might still be there? Of course we did, and our good luck stayed with us. There on the same cow was the same ani, which graciously permitted us to have an excellent view of him.

From Homestead the road goes southwest into the boundaries of the new Everglades National Park. Here were the birds of the Okeechobee region in still greater number, in a more tropical setting. Alligators dozed in the



Sandhill Cranes

Photo by Allan D. Cruikshank

thickets along the road. When we got out of the station wagons we were warned to watch for snakes. The road is bordered on each side by a deep ditch, so walking is impossible, and the danger of snakes is negligible.

The objective of this trip was a remote rookery in West Lake, deep in the heart of the mangrove swamps. It lies just west of Whitewater Bay in the maze of swamps at the southernmost tip of Florida's mainland. We lunched on Coot Bay where the station wagons were left, and set out in two boats. From Coot Bay we wormed our way with idling motors through a narrow passageway arched with mangroves, into a second lake. To get from this lake into West Lake the boats are anchored, and one group at a time proceeds by row-boat. While the leader poles the boat, the passengers pull at branches to help work the boat through the tangled waterway. Barnacles on the trees are a menace to hands. Snails cling to the branches. Air plants and orchids reach up to the light above the gloom of the thicket.

Through the dark tangle of roots snakes whip their way with smooth ease.

While the first boat-load went through we cruised about and got ourselves stuck in the weeds. It was highly entertaining to the women to watch the men hang upside down picking the weeds off the propeller of the motor boat with a can-opener. Once inside the magic lake we had perhaps the greatest thrill of the entire Florida trip. The island rookery was covered with at least 10,000 American and snowy egrets, Ward's, Louisiana and little blue herons. Cormorants perched on the outer edges of the islands, and eagles and ospreys soared overhead. On the mudflats of another island we found 20 avocets, so rare that they are not on the Florida check-list. Black-necked stilts and a variety of sandpipers waded on the narrow edges of sand left free by the ever-crowding mangroves. We were reduced to silence as we were forced at last to leave this unbelievably remote haven, where birds may still live in peace, disturbed only occasionally by such worshippers as ourselves. The sun was setting as we rode back to Coot Bay, wondering if life could ever hold another such day.

This ought to be the conclusion, but there was still another day to come. We stayed over night at Tavernier on Key Largo. The second day was spent traveling by launch through Florida Bay, south of the mainland which we had explored the day before. When I tell you that we visited the spoon-bill rookeries discussed in Allen's "Flame Birds" you will know that here was another day beyond description. The pink, rose, and carmine birds against blue sky and dark green mangrove is a sight to be dreamed over the rest of one's life. Here we saw for the first time the magnificent great white herons. Reddish egrets were another rare species seen only here. We had heard that we would probably find man-o'-war birds, and Mrs. Baldwin, always on the alert, again was the first to sight them. Caspian and royal terns and black skimmers circled over us. And from the mangrove thickets along the shores came the buzzing, running-up-the-scale song of the prairie warbler, most mis-named of all birds.

All good things must come to an end. The morning on Florida Bay ended the Audubon Wildlife Tours. By evening we were back in Miami, and the next morning saw us rushing northward to Chicago. We have breathed many a prayer of thanks for the Audubon Society and the National Park Service that are struggling to preserve these beautiful things from further destruction.



Membership Contest

THE MEMBERSHIP COMMITTEE appreciates the response to its recent letter asking for the names of prospects in its campaign toward the goal of doubling the Society's membership. Those who have not yet sent in their suggestions are urged to do so at once.

As an incentive toward the increase in our membership the Society will give to the member securing the greatest number of new members in Cook County, or submitting the names of those who do become members, a copy of Kortwright's *Ducks, Geese and Swans of North America*. The same

prize will be given for the greatest number outside of Cook County, and to anyone who secures six or more new members.

Kortwright's volume has been acclaimed as the outstanding work on the water birds and contains descriptive matter and fine color plates of both old and young of many species.

CONTEST RULES

No officer or member of the Board of Directors of the Society shall be eligible for these prizes.

When more than one person submits a prospect who affiliates, credit will go to the one who first submitted the prospect, except when the new name is submitted by another and accompanied by a check for dues, or the new member specifically designates to whom he wishes the credit given.

In case of ties duplicate prizes will be awarded, provided such ties are for not less than six members, in which case the Committee will award other prizes commensurate with the number of members secured.

This offer will expire with the close of the present calendar year 1948.

Names of prospects and any other correspondence should be sent to Mr. Harry R. Smith, Chairman, at the office of the Society, 2001 North Clark Street, Chicago 14.



A Threatened Catastrophy

By C. W. G. EIFRIG

OF LATE YEARS it is becoming increasingly evident that the number of birds is decreasing woefully over large areas. This is being brought home to the writer by checks during extended automobile tours which have become more or less a routine matter since taking up residence in Florida.

That there are inscrutable forces at work among birds, just as among other animals and plants, could be seen when about thirty years ago the lark sparrow disappeared from the Great Lakes region, followed later and perhaps not quite so completely by the migrant shrike, at least in the Chicago area. In other cases the cause or causes are plain enough. Thus, the near-disappearance of the red-headed woodpecker was due to the killing on roads and highways by the growing number of autos. The almost complete disappearance of the cliff swallow from the eastern half of the country was probably due to the depredations of the introduced starling and English sparrow, plus the introduction of farm machinery. The latter also explains the disappearance of the barn swallow and the purple martin from most of our rural areas.

The writer in 1946 made a more extended auto trip than in other years, namely to California and back, with many side trips, a total of 9,394 miles. While one cannot make a census and a correct identification of all birds seen along the highways, one gets a good impression whether birdlife is abundant or not, and of the identity of such well-known and easily identi-

able species as bluebirds, mourning doves, goldfinches and the like, particularly if one has been doing it passionately for fifty years. During this drive from the Atlantic to the Pacific we saw only about a half-dozen bluebirds, hardly that many red-headed woodpeckers, few swallows and mourning doves. And this was in May and June! Of course, California is in a class by itself, not only in fruit and other vegetal products, but also in birds. In the many suburbs of Los Angeles the killdeer, among others, has become a town bird, spending much of its time on the lawns around homes, no doubt due to the frequent watering and irrigation these have to get, which in turn attracts insects. The first thriving purple martin colony we saw was on the return trip at Concordia, Missouri, where also the mourning dove became common. In 1924, when I drove to Yellowstone Park and points west, the dove in its eastern and western varieties was over large areas the most abundant roadside bird. True, in a few localities along the way, at least for a short distance as in the cow-country in western Kansas, magpies, cowbirds, lark buntings, lark sparrows and western vesper sparrows were numerous. Also, one would now and then get a glimpse of a rarer bird, as the wild turkey in western Texas and a burrowing owl near Trinidad, Colorado. But, by and large, the prospect was dismal, ominous, giving rise to dire forebodings of a birdless land.

But the greatest shock came to me this past summer (1947). We drove 1,200 miles to Chicagoland, with many side trips into Wisconsin, Indiana, Ohio, and to the northern part of Michigan. The same dearth of birds everywhere. This was climaxed by conditions on the old farm near Fort Wayne, Indiana, where the writer has been a frequent visitor and guest since 1886. Until comparatively recent years such species as the bluebird, prairie horned lark, migrant shrike, barn and cliff swallows, purple martin and mourning dove, and even the bobolink, were common to abundant summer residents. Now none of these was to be seen, or only a pitiful remnant. Instead of dozens or hundreds of barn swallows winging their happy way around the farm buildings, there was now a pair or two. Next to no mourning doves and robins were there; even English sparrows and starlings shared in their numerical decrease. Formerly indigo buntings and goldfinches enlivened and lent color to this fine pastoral scene; now no more were to be seen. In only two or three spots in Michigan did I see goldfinches at all. Bluebirds and redheads seem to have disappeared from the whole Great Lakes region, also the migrant shrike and the whippoorwill; phoebe and kingbird are rarely seen, even kingfishers, hairy and downy woodpeckers. I hope that many localities will be found where things are different and better, but by and large this is the condition.

I am writing this in Elmhurst, an attractive suburb of Chicago, on September 18, 1947, but so far I have not seen a single migratory warbler or flycatcher. What has become of them? Let us hope that the numbers of shore- and waterbirds are undiminished.

The reason for the passing of the bluebird is, of course, well known. The usurpation of nesting holes by the pesky starling is to blame, it not only occupying nearly all available cavities, but also attacking the rightful

owners and throwing out eggs and young. (Only near Quincy, Ill., are bluebirds more abundant than formerly, owing to the bluebird benefactor, Mr. Thomas E. Musselmann.) As already seen redheads are killed by autos on the highways, and swallows have to go because of the introduction of farm machinery, which does away with horses and manure piles, the chief breeding places of flies. An irreparable loss to the attractiveness of the rural scene! Also the vanishing of the whippoorwill is easily understood when one sees how in the agricultural sections of its former range the farmers use their woodlots for pasturing cattle and hogs.

But what about the decrease in numbers of wood warblers, flycatchers and vireos? That is another calamity of the first order, both from an aesthetic and economic standpoint. What mysterious changes are taking place in the biological, atmospheric and physical factors and conditions of our planet? I fear the extensive dusting of fields, orchards and citrus groves with DDT and other insect repellants has something to do with it.

Florida is looked upon as being a bird paradise. That was true formerly, but it certainly is so no longer away from the two coast lines. In the five and one-half years that I have lived here I have yet to see a gray-headed nuthatch, the Florida chickadee, painted bunting, blue grosbeak, and others which are supposed to breed here; others, like the gray kingbird, summer tanager and Audubon's caracara only once, also the cedar wax-wing from the north. The Florida and other wrens, white-eyed towhee and vireo, brown thrasher, catbird and others are few and far between. When I first came here loggerhead shrikes and sparrow hawks were more numerous along the roadsides than now. When driving to Orlando, 13 miles away, one often sees no more than three or four birds along the highway in any month of the year. Sometimes there are quite a few northern chipping, field and vesper sparrows to be seen during the "winter" months. One would think that at least during the migration months there would be a teeming birdlife here. Even that is not true. I live in a rather attractive locality, between lakes, woods and citrus groves. Yet I see but few warblers and thrushes; four to five small groups of five to ten warblers each pass through the trees overhead in a season. All the warblers I have seen in five years are the following: yellow palm, Cape May, blackburnian, blue-winged, redstart, one to five of each, and palm and myrtle which stay here all winter; but this past winter I have seen only about ten palm and no myrtle warblers. The parula, yellow-throated and prairie warblers (subspecies?) have also appeared to the tune of five to ten of each, but in their proper subspecies they should be here all the time as they are species breeding in Florida. Hawks and owls, hairy and downy woodpeckers are rarely seen, and in the many sloughs and swampy ponds that one passes when driving I have never yet seen a gallinule or rail, although in certain stretches of the canals from lake to lake, in the bonnet areas lining them, they may be seen in numbers. I think I found the metropolis of purple gallinules in one of them, about fifty in a stretch of a half-mile. Of course, the colony-nesting egrets and herons are plentiful to abundant in their chosen heronries, such as the one in Lake Butler, within view of where I live.

The Family *Icteridae*

By ANNA C. AMES

PECULIAR TO THE AMERICAS are the members of the family *Icteridae* — the grackles, the blackbirds, the cowbird, the bobolink, the much-loved meadowlark, and the orioles. The Old World has no birds like these.

The members of this family are nine-primaried, have sharp, conical bills, and, generally speaking, are highly insectivorous. In spring migration the males arrive first, sometimes as much as two weeks before the females. "In this group the bill differs greatly as to relative length and thickness, but is never conspicuously longer than the head. The wing is extremely variable, but usually the tip is moderately extended and terminates abruptly. The tail varies in length, form of tip, and shape of feathers; it is never forked or notched, and is usually rounded, sometimes double rounded, and occasionally graduated and folded like a fan. The tail feathers number twelve and vary in width at the tips in different species. In one species, the bobolink, they abruptly taper to a point and are rigid at the tips."

The name *icteridae* is from the Latin *ictericus* meaning jaundiced or yellow. Most of the species of this group are garbed largely or in some small part in yellow, orange, or buff. The sexes differ in coloration except the meadowlarks. The females are more plainly colored and generally smaller than the males. Aside from the meadowlarks and cowbirds, the males of the various species are either plain black (sometimes with bluish or greenish metallic gloss) or black with gorgeous colors.

The different species of *icteridae* have strongly contrasting characteristics. Some nest in colonies and are very gregarious; others, as the meadowlarks, live in couples. All are strong walkers except the orioles, who hop. Some are musical; others sing not at all. The notes of the singers have a somewhat metallic quality. The bobolink has a rollicking song; the grackles are solemn. Some are migratory; others are local. Generally they are devoted to their families, but this is not true of the cowbirds. All but the orioles may be considered largely ground birds; the orioles live almost entirely in trees. The orioles build exquisite nests; the cowbirds never build nests. Some are birds of the grassy plains; others nest chiefly in swamps and marshes; still others are birds of the trees.

The nests of most of these birds are fairly inaccessible, as those of the orioles and most of the blackbirds. However, meadowlarks and bobolinks and Brewer's blackbirds nest on the ground. Grackles' nests are not so high in trees that one cannot climb to them.

"If the nest or eggs of birds of this family are interfered with before incubation begins, the birds usually desert and choose another site. Their incubation periods are in general shorter than those of other birds which lay eggs of similar size. The young are fed by the parent bird's placing the food far enough down in the mouth so that it touches the base of the tongue and so produces the proper reaction. After a feeding, the nest is scrupulously cleaned. In this group of birds the feces are enclosed in a mucous sac so that they can be carried away. The young birds are ordi-

narily brooded by the female." It is said that after the young once leave the nest they are never brooded again, and they never return to the nest, although they may be fed by their parents for two or three weeks longer.

Sometimes meadowlarks, red-wings, and yellow-heads have second nestings, and cowbirds are known to lay eggs as late as July. Bobolinks, orioles, and grackles seem to be content with one brood.

"The *Icteridae* belong chiefly to tropical South America and the adjacent islands. Nearly one hundred and fifty species are known, of which by far the greater number are represented only in South America. Eighteen species occur north of Mexico. Of these, most are highly gregarious, assembling in large flocks, the sexes separately, and migrating."

GRACKLES

"Three of the four races of grackles or crow-blackbirds found in eastern North America are so alike in habits and haunts that, with some slight allowance for differences in habitats north and south, the same observations apply to all of them. The bronze grackle is the grackle of eastern Canada and of the northern United States east of the Rockies. The Florida purple grackle is of the South Atlantic coast and west near the Gulf to Texas, and the purple grackle is of the Middle Atlantic coast region east of the Alleghenies. As a species the grackle nests over most of temperate North America, east of the Rockies, and winters in the southern part of its range."

The grackle is one of the three or four most common lawn birds, the others being the robin, the flicker, and the starling. The glossy black male grackles with their strikingly iridescent feathers are handsome birds. Sometimes when the sun shines upon them one marvels at their beauty, but a slight change of position makes them appear just ordinary black birds.

The male bronzed grackle ordinarily has a head of the color of blued steel, but I once saw one of a flock that had a brassy green head. (Possibly he was a purple grackle, though it was in Kansas that I saw him.) The body is of metallic seal-bronze. His mate closely resembles him though she has somewhat less color. The male purple grackle's head, neck, and chest vary in color from metallic reddish-violet to golden green. The general color effect of the bird as a whole is that he is purple, but green and blue and blue-bronze, etc., appear in his plumage. The female bird is decidedly smaller than the male and much duller in color. Florida purple grackles have dull greenish backs. All of the grackles have whitish eyes.

A point in favor of grackles is that they are harbingers of spring. On a chilly, windy day in March a flock of grackles whirs into the top of some tall, lone, leafless tree and sends out a "squeaky wheel-barrow" chorus to announce that they — and spring — are at hand. As Donald Culross Peattie has said, "the airs would be lonelier without their gabbling and mockery and the sweet squeak and gurgle as of an old mill wheel in a stream." Later they walk sturdily about the lawns and other open places eating whatever may be available, for they are birds of omnivorous appetites.

Grackles seem to prefer to nest in coniferous trees, but when these are not present they make use of other trees or shrubs. The nest is a large,

loose, bulky affair frequently cemented with mud, and usually has an untidy appearance. The four to six eggs vary greatly in size, color, and markings of blotches or zigzag streaks of brown or black with a ground color of greenish, blue, or dirty brown. Having chosen a nesting site, the birds are very persistent and will return time after time upon being driven away. The nest is usually in trees or bushes near water, but may be about buildings or bridges or in a cavity in a tree.

During the courtship season the male grackle in flight depresses the central feathers of his long, wedge-shaped tail, forming a V-shaped keel. His courtship is comical rather than inspiring. He puffs out his feathers to twice their natural size, partly opens his wings, spreads his tail and, if he is on the ground, drags it rigidly as he walks. At the same time he gives a series of harsh, disagreeable, saw-filing notes.

Normally grackles were originally birds of the marsh and waterside in forested regions, but they have learned to take advantage of settled communities. In colonial days they were known as "maize thieves," and "in some Cape Cod towns a young man was forbidden by law to marry until he had turned in to the town clerk a certain quota of crow-blackbirds' heads. The war against the birds was so successful that in 1749 locusts and other grass-destroying pests ruined the grass crop of the New England states so that the farmers were obliged to send to Pennsylvania and England for hay." Then the pendulum swung in the other direction and grackles now flourish in abundance in New England.

Grackles are said to rank high in intelligence and to be excellent judges of the extent of the danger zone surrounding a man with a gun. They destroy eggs and young of other birds, and even catch, kill, and eat young birds after they are fledged and able to fly. At times they kill adult birds. During the nesting season the grackles do much good by destroying quantities of insects that they eat and feed to their young. In autumn they turn largely to vegetal food. The grain the purple grackle eats amounts to 45% of his food. Before the end of August grackles assemble in flocks and these flocks increase in size until some contain thousands of birds. Such hosts are capable of considerable damage.

Grackles will eat almost anything. They are fond of the water and walk about in shallow waters with the tail elevated to keep it dry. Lakeshores, river banks, and mud flats have a special appeal for them. The last of March, 1948, I saw a grackle draw from the water a fish several inches in length which he proceeded to eat in slivers. Grackles have been known to take hard pieces of bread and soak them in water until they were softened.

The male boat-tailed grackle, named for his long, wide, keel-shaped tail, may be considered a large edition of the purple grackle. Other grackles are only two or three inches longer than robins, but the boat-tailed measures sixteen or seventeen inches. The female is of varying shades of brown and is several inches smaller than her mate. These are the grackles of the South Atlantic and Gulf coasts of the U. S. (including the whole of Florida). They range north to the coast of Virginia and west to the coast

of Texas. A rather uncommon characteristic of the species is that in spring migration the females precede the males. Another peculiarity of boat-tailed grackles is that as soon as incubation begins the males desert the females and from that time on remain in flocks by themselves.

The boat-tails like water and often wade up to their breasts as they feed on aquatic insects or little fish. "They feed in small flocks even during the nesting season. Sometimes they nest in the sawgrass like redwings, sometimes in the willows among the herons, and again they may conceal their nests in the curtains of Spanish moss hanging from cypress trees."

BLACKBIRDS

1. *Red-winged blackbird*: The red-winged blackbird is probably best known of blackbirds, as it occurs in one or another of fourteen subspecies over all of North America and most of Mexico. The more northern breeding birds winter in the southern breeding range. It is perhaps the most abundant and widely distributed native bird in North America. It is almost certain to be found in any marshes, sloughs, or low-lying wet meadows.

The male red-wing has gorgeous scarlet epaulets with buffy borders. When the bird is at rest the scarlet is often concealed and only the buffy or yellowish margin is visible. The bi-colored red-wing of the western coast states has poppy-red shoulders with no pronounced buffy margin, while the tri-colored red-wing of California has the middle coverts white, in striking contrast to the dull crimson of the lesser wing coverts. After the breeding season the male red-wing looks much like the female, but still has redder shoulders than she does. Female red-wings are brownish birds, with tinges of red on cheeks, throat, and bend of wings. They are identified by their sharp-pointed bills and heavy, well-defined stripings below.

The red-wing's *chuck*, like that of other blackbirds, is froglike. He has also various whistles. His song has a liquid quality suggesting boggy ooze. When some dozens or hundreds of the birds sing together, their *okalee* or *quong-ker-ee* has a delightful quality. It is always melody to me.

*"I shake my head and I doubt me whether
Your cultured strain has a charm for Pan
When a blackbird sings in the sunshine weather,
With the spots on his wings as red as fire,
And his notes as sweet as Apollo's lyre."*

In migration the males arrive first; they are sometimes as much as ten days earlier than the females. Some hundreds in a flock not infrequently appear. After the females come the birds begin to scatter and mate. Red-wings often breed in communities in swamps, marshes, or meadows, but sometimes a pair go away by themselves.

The nest, often of sedge grass, is commonly suspended among reeds, rushes, or cat-tails in a wet place not readily accessible to man. However, the birds adapt themselves to circumstances and sometimes nest in willows or upland shrubs, and sometimes even on the ground in a hayfield. One red-wing that I knew nested in a pine tree in the yard of a friend whose

home was miles from any water. This bird had but one mate the first year that I observed him, but the second year he had two wives. The birds are not always polygamous, but when they are, each female has her own nest and all seem quite satisfied.

The red-wings usually have from three to six eggs which are bluish-white or -green, spotted and marked with zigzag lines of black and purplish. Forbush says that some males assist in feeding the young, but probably this duty is left mostly to the mother birds. Some consider the male birds utterly irresponsible as parents; Forbush says that the male bird is vigilant in protection of his young. "Let a crow appear and the blackbird is after him. He will chase a marsh hawk, a bittern, or even an osprey in his anxiety to protect those dependent upon him. . . . At sight of a man approaching, the bird becomes hysterical and goes out to meet him, fluttering overhead and uttering blackbird maledictions or lamentations as long as the intruder remains in the vicinity of his charges."

Often red-wings rear but one brood a season, after which they gather in great flocks and forsake the marshes except that they return for roosting. In an autumn twilight I have seen hundreds of red-wings winging their way to the marshes, there to settle among the reeds and cat-tails and chatter and call to one another until dark.

Red-wings may go half a mile from their nests to secure an abundance of caterpillars for their young. In migration they often swarm on the upland and in the cornfields. They have a partiality for open fields and plowed lands. They follow the plow, picking up grubs, worms, and caterpillars. In the Northeast they are protected by law, but in some states there has been a bounty on their heads.

In *Birds of America* F. E. L. Beal has this to say of the red-wing: "Examination of 1,083 stomachs showed that vegetable matter forms 74% of the food, while the animal matter, mainly insects, forms but 26%. . . . So far as the insect food as a whole is concerned, the red-wing may be considered entirely beneficial.

"Only three kinds of grain, corn, oats, and wheat, were found in appreciable quantities in the stomachs. They aggregate but little more than 13% of the whole food, oats forming nearly half of this amount. . . . The most important item of the bird's food, however, is weed seed, which forms practically the whole food in winter and about 57% of the fare of the whole year. The principal weed seeds eaten are those of ragweed, barn-grass, and smartweed. That these seeds are preferred is shown by the fact that the birds begin to eat them in August, when grain is still readily accessible, and continue feeding on them even after insects become plentiful in April. The red-wing eats very little fruit and does practically no harm in the garden or orchard. Nearly seven-eighths of its food is made up of weed seed or of insects injurious to agriculture, indicating unmistakably that the bird should be protected, except, perhaps, in a few places where it is overabundant."

NOTE: This article by Mrs. Ames will be continued in future issues of the *Bulletin* until the entire family has been studied.

Passenger Pigeon Shooting in Chicago

By EDWARD R. FORD

IT WAS PROF. SCHORGER'S CONCLUSION, the result of his studies of the passenger pigeon in Wisconsin, that the impossibility of its existence alongside successful agriculture would have doomed it anyway. Perhaps we may find in that idea consolation for its loss by market hunting pressure.

Of this hunting in Illinois the following story, names of participants included for the sake of historical accuracy, may be of interest as a record.

Many old-time residents of Illinois, especially Chicagoans, will remember when part of the present metropolis was the town (later the city) of Lake View. Here, in their youth, was countryside. As late as the early eighties the passenger pigeon was found there.

In a talk recently with a boyhood friend who lived in Lake View before I knew it, I learned of an actual pigeon hunt in which he "assisted" which took place in an 80 acre field on Southport Avenue at its junction with Lincoln and Diversey Avenues. Among the local nimrods, he told me, were Richard Lewis, Roland Goode, Ed. Goode and John Huffmeyer. Among their retainers, small neighbors and nephews, were my friend, W. C. Meier, together with Orrin Goode and little Johnny Huffmeyer—all lads from eight to ten years old. It was their employment to flush the birds.

The guns were all at the edge of the field. The beaters crawled on their bellies in the grass until the hunters shouted "Up!" At the signal they rose, waved their arms and yelled. Thousands of birds took wing and scores were shot. Thus many of the race whose complete disappearance we now deplore were killed by Chicagoans on Chicago soil.



Nuthatch

*Shrewd little haunter of woods all gray,
Whom I met on my walk of a winter day—
You're busy inspecting each cranny and hole
In the ragged bark of yon hickory bole;
You intent on your task and I on the law
Of your wonderful head and gymnastic claw!*

*The woodpecker well may despair of this feat—
Only the fly with you can compete!
So much is clear; but I fain would know
How you can so reckless and fearless go,
Head upward, head downward, all one to you,
Zenith and nadir the same in your view.*

—EDITH M. THOMAS

The Lecture Series

WE SHOULD BE something less than fair to those who appeared on our 1947-48 Screen Tours program if we were to pass up their efforts without some comment of appreciation. The consensus so far as it has come to our ears has been that it was the finest series we have ever put forth—and that is certainly high praise. We are of very much the same opinion, and are hopeful that the 1948-49 series, contract for which has already been signed, will be of an equally high caliber.

The season was opened October 11, 1947, by Allan Cruikshank and his film "South Along the Suwannee." In this he showed the results of many months spent in the "Deep South" studying and photographing the birds, animals and the plant life, all of which were rich in abundance and variety. It was a fascinating story of a region of which most of us know little.

He was followed November 24 by Howard L. Orians, who, in his lecture entitled "Lakelore," gave us a view of what might as well have been our own great lake front, inasmuch as the greater portion of his film was recorded within the city limits of Milwaukee. He made the Lake Michigan shore a delightful place in all seasons and all weathers for the nature enthusiast.

January 5, 1948, brought again to us our long-time friend, Dr. Olin S. Pettingill, Jr., and his ideas of "Wilderness Mischief." His story of how conditions change and how species of plants, animals and birds also change to meet those new conditions was illustrated with his usual humor and splendid photography, showing how birds and animals play, gather food, build and defend their homes, and rear their families. We heard many comments that he was "never better."

Howard Cleaves came to us February 2nd and in "Midnight Movies in Animaland" demonstrated the technique by which he secured the splendid night pictures of happenings in the life of the wilderness. Dressed up as the "human chandelier" he was able to catch the activities of the "night shift" among the wild creatures and show them to us who never have that opportunity.

Closing the season on April 9 was given to Bert Harwell, the nation's outstanding bird song interpreter. His "Outdoor Symphony" took its notes from all nature: the swamps of Florida and their birds and animals; the bogs of Northern Michigan and their orchids; the prairies and their meadowlarks; the towering peaks of Yellowstone and their wild animals and geysers; and the many glories of Glacier.

As is intimated above, the audiences were in every case enthusiastic, and on at least one occasion after all available standing room was occupied some persons were turned back at the door for lack of space. This year no restrictions were placed upon seats—first come, first served. If the interest continues as great this fall we may be obliged to restrict certain sections to members as we did once before because of the limited seating capacity. Announcements of future dates and programs will probably be made in the September issue of the *Bulletin*.

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the lands for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

ACTIVE MEMBERS	\$2.00 annually
CONTRIBUTING MEMBERS.....	\$5.00 annually
SUSTAINING MEMBERS.....	\$25.00
LIFE MEMBERS	\$100.00

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THE
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For the Protection of Wild Birds

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Telephone LIncoln 9-0606

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Desert and Mountain in Southern Arizona

By MARGARET MORSE NICE



Barrel Cactus in the Desert

ON FEBRUARY 26 OF THIS YEAR it was my good fortune to start out for the West Coast, traveling on the Imperial on the Rock Island Railroad and watching with keen interest the countryside through Illinois, Iowa, the Texas Panhandle and New Mexico. There were not many birds; three Buteos, a Marsh Hawk and a number of Crows the first day and a dozen White-necked Ravens the next were all that I identified. In Iowa the rich farms were eroding, while the Southwest showed a shocking picture of over-grazing. New Mexico is fascinating country, wickedly abused.

It was forty-one years since I had journeyed to the West Coast, that time also in February; we had taken the Santa Fe, much the same route as that I was now following. In my little diary I had noted in southeastern Colorado "a coyote, chipmunks, jack rabbits and prairie dogs"; my remembrance is of many populous

towns of these engaging creatures. On the present trip, and also on my return journey in May which included one whole day through Nevada and another through Colorado, despite continuous watch I saw *not one single wild mammal*. The poisoners have done their work only too well.

On all sides of Tucson rise mountains — to the west the Tucsons, to the north the Santa Catalinas, to the east the Rincons, and to the south the Santa Ritas. The bracing air, the blue sky, the bright stars at night, all add to the charm of this town in the Arizona Desert. Trees and plants from distant lands adorn the city — eucalyptus and gums from Australia, tree tobacco from South America, date palms from Africa, olives from Europe, tamarisks, oranges and lemons from Asia. Cottonwoods and willows were leafing out, jasmine and violets were in bloom.

At the home of Mr. and Mrs. William Foerster and Mrs. Foerster's son, Allan Phillips, there were many House Finches that warbled charmingly, a large flock of Robins that sang and bathed, a dozen at a time, in the large pool, many Gambel's Sparrows, and two species that were new to me: the Gila Woodpecker with its round red cap and ladder back and the quaint little Inca Dove with its pleasant song, *ho-ho*.

That first morning Dr. Phillips took me to see the desert. We drove past great stretches of creosote bush, *Larrea divaricata*, "the most common and widely distributed shrub in the desert,"* at this time bronze green, but later it would be bright with yellow flowers. It is little frequented by birds and mammals, for it is neither rigid nor thorny for shelter and nesting sites, nor are its seeds much liked. We hoped to see the rare Rufous-winged Sparrow in the Wilmot Road region, but the place was much damaged by over-grazing and most of the tabosa grass gone; although we heard the sparrows singing in the distance we failed to locate them. The chief tree was the desert hackberry, a shrubby, prickly affair with small green leaves; wood rat houses were built into the bases of many of them. Mesquite was not yet in leaf. I was happy to see for the first time Mexican tea, *Ephedra trifurcata*, a very primitive plant belonging to the Gnetales, with long green stems and no leaves. There were many blue palo verdes, small trees with green branches, capable of photosynthesis and leafless during most of the year; in spring they are covered with masses of yellow flowers. Barrel cacti were surprising sights and cholla cactus was abundant; one held two Cactus Wren nests, others sheltered wood rat homes, while nearby were holes of kangaroo rats. Birds were rather quiet on this warm mid-morning; a large Cactus Wren shouted and a Curved-billed Thrasher sang, while my first Verdin, a funny little olive-grayish fellow with a yellow head, chattered *tic tic tic tic*; we found two of its large nests with entrance at the bottom.

On the way to the San Xavier Indian Reservation we came to stony buttes covered with the incredible saguaros or giant cacti; each seemed to own a woodpecker hole made by Gilded Flickers and Gila Woodpeckers and appropriated by Elf Owls and Purple Martins. Growing on a cat's claw, *Acacia Greggii*, was the strangest kind of mistletoe, *Phoradendron californicum*, with no leaves and the tiniest of flowers around which bees were humming. Birds were abundant, the most interesting to me being Say's Phoebe with its rusty underparts, chunky Canyon Towhee, Bendire's Thrasher with its straight bill, and migrating White-throated Swifts that dashed hither and yon.

The next day we accompanied the Tucson Bird Club, led by Dr. Charles T. Vorhies, dean of Arizona naturalists, on a trip to irrigated land and ranches around the city. Our first stop was at the site of a mesquite forest, once a dense woods with trees thirty to sixty feet in height and as much as two feet in diameter; now only a few stumps remain. By a little pond we

*L. Benson and R. A. Darrow, 1944, A Manual of Southwestern Desert Trees and Shrubs, Univ. Arizona Bull., Vol. XV, No. 2, 411 pp.

saw handsome Black Phoebes, a brilliant Yellow-throat, a number of Audubon Warblers, and the first Violet-green Swallows of the season. In a nearby gully were two Lawrence's Goldfinches, the male with black forehead and chin but no yellow except on the breast and wing bars, and also Green-backed Goldfinches, bright yellow beneath, greenish above. Here were three other birds new to me: Abert's and Green-tailed Towhees and a Crissal Thrasher. Busy getting nuts in a pecan orchard were four splendid Lewis's Woodpeckers with their rosy breasts. A female Ladder-backed Woodpecker and two exquisite male Mountain Bluebirds competed for our attention.



Giant Saguaro and the Catalina Mountains; Lower Sonoran Zone.



Live Oaks and Junipers on Soldier Trail; Upper Sonoran Zone.

Throng of birds were gathered near a corral of Hereford cattle: a large flock of Brewer's Blackbirds and Redwings with two Yellow-headed Blackbirds, multitudes of Western Meadowlarks, Inca Doves and Lark Sparrows, as well as a Cardinal and a fascinating Pyrrhuloxia, the delicate pink splashed down his breast. At a pond in a field were three Long-billed Dowitchers and five species of ducks, the most exciting of which to me were gorgeous Cinnamon Teal. Dr. Vorhies walked over to a great cottonwood and frightened a Red-tailed Hawk from her nest; she soared about for some ten minutes, then returned to perch in the cottonwood.

At Indian Dam I met my first Vermillion Flycatcher, a young male, an engaging creature, pinkish beneath, brown above. And then an adult male!

Incredible brilliance of crown and underparts, his head aflame with beauty. Such confident little birds, intent on their hunting, and silent in marked contrast to the persistent chips of the Black Phoebe. I wished I could see the fluttering courtship flights and hear the pretty song.

One day we drove southeast to the Mexican border, mounting from the 2400 foot elevation of Tucson over "grasslands" where once grew sacaton grass "higher than a mule's back," but which now, due to over-grazing, are mostly bare rocks with a scattering of yucca, ocotillo, palo verde and mesquite. As we crossed the Sonoita Plains at 5000 feet we began to meet junipers. The south side of the Santa Ritas was less over-grazed than the north; here there was grass, junipers and live oaks. Horned Larks were on their territories, multitudes of Vesper and Chipping Sparrows foraged near the roadside, and a number of Chestnut-backed Bluebirds flitted from one fence post to another.

At Patagonia (elevation 4500 feet) we followed Sonoita Creek through fine stands of great cottonwoods, still leafless, willows, Arizona ash and desert elderberry, a sizeable tree with rich dark green foliage that falls in summer but comes out again in December, making this a handsome feature of the landscape in many of the regions I visited. Jarilla, *Senecio salignus*, was conspicuous with large yellow blossoms.

Three incomparable Vermillion Flycatchers gladdened our eyes. American Ravens croaked, Arizona Jays called *wheenk*, three Bush Tits gave their lisping notes. I was glad to see a Rocky Mountain Orange-crowned Warbler, noticeably more yellow than the eastern form I had known so well in Oklahoma; this bird even showed us its orange crown. Dr. Phillips called a Screech Owl from her hole and she kept calling and calling in her quavering voice; he said female's voices were higher pitched than males'. It was a treat to watch a Road-runner hunting at ease; it raised and lowered its crest and lifted its great tail and tilted it forward over its back. The best find for me was an Acorn-eating Woodpecker, most amazingly marked on the head with red, black and white.

I wished I could come here later in the season for Dr. Phillips told me that the summer birds in these woods include Mexican Goshawks, Broad-billed and Black-chinned Hummingbirds, Cassin's Kingbirds, four flycatchers—Arizona Crested, Ash-throated, Olivaceous and Beardless—Hooded Orioles, Cooper's Tanagers, Yellow and Lucy's Warblers and multitudes of Long-tailed Chats.

We continued to Nogales, where we explored a bit of Mexico without much profit, but had a very pleasant visit with Mr. Fred Dille, veteran ornithologist, oölogist and bibliophile. All the region from Patagonia to Nogales is severely over-grazed, the soil impoverished and eroding. Little but cactus and mesquite grow on most of the hills and mountains that once were good grazing country. As around Tucson, many great cottonwoods are dead because of the lowering of the water table. Why did Linnaeus ever call man *Homo sapiens*?

We had explored the desert and the grasslands; the mountains showed a different picture. We did not visit the Tucsons that rise to only 4000 to

5000 feet and thus are in the Lower Sonoran zone, but the Catalinas and Santa Ritas reach over 9000 feet. First Dr. Phillips drove me to Sabino Canyon in the Catalinas which were glorified with a new snow fall. Along the Rillito a number of cottonwoods were loaded with great bunches of mistletoe, *Phoradendron macrophyllum*, much like our eastern variety. Up the canyon Arizona ashes were just budding out, while the yellow green of the cottonwoods gave the brightest color. Arizona sycamores stood as if sculptured in marble. Everywhere on the slopes were the amazing saguaros in gaunt, fantastic shapes.

Birds were picking up crumbs from the picnic grounds: Canyon and Spotted Towhees and many wintering native sparrows, among them an ashy-colored Fox Sparrow, plenty of Oregon Juncos and one Pink-sided, and, brand-new to me, a Black-chinned Sparrow that, without a black chin, with grey head, pink bill and striped back looked like a cross between a junco and a chipping sparrow. There were handsome Arizona Jays, a Ladder-backed Woodpecker, a musical Curve-billed Thrasher, and no less than four species of wrens—Cactus, Bewick's, Rock and Canyon.

Down in the foothills we found among the saguaros a pair of Gilded Flickers "with the head of the Red-shafted Flicker and the body of the Yellow-shafted."* Several fearless Desert Sparrows worked among the bunches of grass. My first Phainopepla was a thrilling sight, a male flying directly over us, his white wing patches flashing through the black. Later we saw another male and a female perched on mesquite trees some distance apart; underneath them were large piles of droppings, for these birds feed largely on the berries of the leafless mistletoe and keep to favorite perches.

Mr. and Mrs. Anders Anderson live to the north of Tucson with a splendid view of the Catalina Mountains; their land is largely in the original with creosote bush and cholla cactus, and it is here that they have made a notable study of color-banded Cactus Wrens. One day they took me through three life zones. First we visited the desert on Wilmot Road and this time we found the Rufous-winged Sparrows. They were tame as they busily fed under cat-claw and desert broom, letting us see their plain breasts, brownish caps with median line, characteristic facial markings and just a hint of the rufous shoulder. Mrs. Anderson showed me the nest she had discovered last July, a deep structure two and a half feet up in a desert hackberry.

Up and up we drove on the Soldier Trail toward Mount Lemmon, passing through the Lower Sonoran zone with its saguaros, agaves, ocotillo and bur sage, *Franseria deltoidea*. At about 4500 feet we reached the Upper Sonoran with its beautiful live oaks, Emory oak and Mexican blue oak, sycamores, ash, alligator-bark juniper, bear grass, sotol and, to my great delight, manzanita, with its crooked deep red branches and exquisite pink bell-shaped flowers.

On and on, winding about in this strange wild country we drove through Mexican pinon and graceful Arizona cypress till we reached Upper Bear

*Roger T. Peterson, Field Guide to Western Birds, 1941, Houghton, Boston.

Canyon and the Transition zone with its ponderosa pines. At 6000 feet we looked for birds; this was where the Andersons had once found a Painted Redstart's nest. It also was the summer haunt of the Red-faced Warbler. Two handsome Catalina Arizona grey squirrels barked at us with a note something like a Blue Jay's; they had long, light colored bushy tails, reddish brown underneath. Working about on the snow-covered ground were Robins and Arizona Juncos; the latter were fearless and let us study at leisure their rufous backs, pale yellow lower mandibles and surprising bright yellow eyes. In the trees were Red-shafted Flickers and White-breasted Nuthatches, as well as a Ruby-crowned Kinglet that sang an elaborate, warbling song. A handsome Red-naped Sapsucker was a thrill-



*Fremont Cottonwoods at Indian
Dam near Tucson.*



*Ponderosa Pines in Upper Bear
Canyon; Transition Zone.*

ing sight to me. Finally we heard a strange song and located a strange little bird with a bronze-yellow head, neck and breast — the first Olive Warbler any of us had ever seen.

Madera Canyon in the Santa Ritas is famed as the summer home of the Coppery-tailed Trogon; it was here that Dr. Arthur Allen filmed that tropical creature. On our way there we passed the remnants of another mesquite forest and saw plenty of burroweed, *Haplopappus tenuisectus*, an invader of grasslands after over-grazing, ordinarily avoided by live stock, but if, in periods of drought, the animals are driven to browse upon it they may suffer from serious poisoning. In a great ploughed field we saw

Ravens, some 75 American and five White-necked. The ground was alive with Mourning Doves busily walking about; suddenly all rose into the air, for a Peregrine Falcon had stooped. He missed and alighted on a clod where he perched for the half hour we stayed. There were great numbers of birds — Western Meadowlarks and House Finches, a Mockingbird, my first Sage Thrasher, Lark Buntings, and plenty of native sparrows, of which Brewer's Sparrows were the most interesting to me.

As we neared the Santa Ritas we passed an experimental range in the Coronado National Forest; this used to be covered with high grass but now is a wilderness of mesquite, cholla, ocotilla, prickly pear and burroweed. Here were a pair of Red-tails which Dr. Phillips called *Buteo borealis fuertsi* because of their white bellies; they were fearless, but we could see no nest.

At Madera Canyon we found snow, about six inches at 5500 feet. Here there were beautiful silver-leaved live oaks, Emory oaks, alligator-bark juniper and a wonderful manzanita in bloom. Rocks and tree trunks were covered with brilliant lichens, green, brown and orange. Flocks of Juncos, Oregon, Arizona and Grey-headed, fed on the ground. Absurd Bridled Titmice gathered juniper berries and an Arizona Woodpecker with brown back and white cheeks worked upon an oak.

Several Coues' white-tailed deer walked near us in the woods; all were small, while one looked no larger than a young fawn. Dr. Vorhies told us that dwarf individuals occur; their exact status is in doubt. We talked with an Illinois man who was spending the winter in a cottage in the canyon. He informed us that his neighbors had killed curious animals they called "Mexican monkeys" that had been preying on their tame rabbits; these are coati-mundis that are extending their range northward. He also said that this was "Javelina Week," but, so far as he knew, no peccaries had been killed.

We heard a sweet and pretty song and here was the fulfillment of one of my life's ambitions — a Painted Redstart. Such an amazing, such a brilliant little bird with scarlet breast, black body, wings and tail black with white patches. He sang and sang; he flirted hither and yon and gave us repeated views of his beauties.

On the way home we were happy to see three great Harris's Hawks perched on tall hackberries; in this position their bodies and wings were chestnut colored, but when they flew they looked black with striking white rump and white band on the end of the tail.

Nine days in Arizona with the most hospitable of hosts and capable of guides who took me over the countryside and not only pointed out the birds but told me the names of the plants. It was a never-to-be-forgotten experience; through the kindness of these fine friends I had learned of the life of the desert and the mountains; I had seen much that was beautiful, significant and strange.

A Visit to the Bear River Migratory Waterfowl Refuge

By HARRY R. SMITH

WHEN A FILM on the Bear River Migratory Bird Refuge was shown at a meeting of the Chicago Ornithological Society last fall, I thought there could be no more desirable place to observe waterfowl in North America. Like most of those present I hoped some time to see this tremendous concentration of birds. This opportunity came much sooner than I dared hope.

On May 14 I had the privilege of spending the day on this great project of our Department of the Interior, which is doing such splendid work in the study and protection of our American wildlife. Arrangements were made by Mr. Philip A. DuMont of the Washington office, U. S. Fish and Wildlife Service, with Mr. Vanez T. Wilson, refuge superintendent, and Mr. G. Horton Jensen, biologist in charge of the research station on the refuge, took me in hand.

The refuge, which comprises about 64,900 acres, is situated at the north end of Bear River Bay near the town of Brigham, in Box Elder County, Utah. This bay terminates in an extensive marsh which was at one time an arm of Great Salt Lake. The refuge was developed by segregating this marsh from the lake by a dike and diverting fresh water from the Bear River, distributing it through a system of spillways into five units. Water is maintained in these impoundments at an average depth of about 3 feet. Pools may be drained rapidly if necessary to stop outbreaks of botulism.

The various dikes dividing the five units provide a system of roadways that can be used for patrol roads. A circular tour of two units is open for public travel, providing unexcelled opportunities for observing birds at a distance of but a few feet while sitting in a car. Consequently, public use of this area is quite heavy, particularly throughout the summer.

Mr. Jensen, who was advised of my visit in advance, had planned his day's work so that I could accompany him over a good share of the refuge. He explained operations and problems of maintenance, patiently answered my many questions, and pointed out birds, several of which I was seeing for the first time.

Even before we entered the boundaries of the refuge I had the thrilling sight of several flocks of White-faced Glossy Ibises which were new to me and which were a promising introduction to the interesting experiences to follow. The birds were feeding on an open wet prairie along the road and could be observed at a short distance.

Any effort to describe their color pattern, which I would not attempt, should be qualified by explaining the light conditions under which they were seen. In referring to this species the authors of "Birds of America" use some of the following terms: "purplish-chestnut tinged with iridescent violet," "iridescent violet-green," "rich wine-red," "green with brassy luster," "green with purplish reflections," "lake-red," "dull reddish." From this one who has not seen the birds is likely to envision an overly decorated

Christmas tree, but actually these bright colors are not visible unless the ibis is viewed at close range. While I watched one of the birds leisurely feeding, the slowly moving tail alternately appeared to be almost black, changing to pink or magenta.

It was a strikingly similar experience to one I had had while watching a Black-chinned Hummingbird in California a week before. It was very close to me and as it moved its head from side to side the lower edge of the black chin patch glistened with almost the same iridescent colors. Incidentally it occurred to me that iridescent would be a more descriptive name for the ibis than glossy.

As we entered the refuge we met a bus load of high school students who were securing first-hand knowledge of biology from a very practical source. It was gratifying to learn that visits of this nature are not only permitted but are definitely encouraged.



Avocet at Nest

The first birds to be seen in considerable numbers were members of the duck family. Practically all of these were nesting since the migrants had departed. They were confined to species that we see in the Chicago region such as the Mallard, Gadwall, Pintail, and the Blue-winged Teal, but some of these seldom or never seen in our area were abundant. For example, the Cinnamon Teal nests in greater numbers than the Blue-winged. I had not had the opportunity to observe the Cinnamon Teal so closely before and had not realized that the male is so much more colorful than it appears to be at some distance. I should have liked to spend hours watching the ducks but there was much territory to cover and we hurried on to the refuge headquarters.

There I met Mr. Jensen's co-workers who were most gracious and helpful. A research station is maintained at headquarters where many problems of food, disease, migration, distribution, and waterfowl ecology in general are investigated.

One of the problems of the research biologists is botulism. It was in the Great Salt Lake region that the seriousness of this disease was first recognized when countless thousands of ducks died in 1910. This western duck sickness, as it was commonly called then, has spread to other sections of the continent and the U. S. Fish and Wildlife Service for many years has been devoting all possible efforts to control the situation which fluctuates in intensity from year to year.

Studies by Dr. Alexander Wetmore, now Secretary of the Smithsonian Institution, and others pointed out the necessity for water control in infected districts. By maintaining constant levels of cold flowing water the volume of bacteria is reduced and, if necessary, the complete drainage of pools is also effective. Outbreaks in the Bear River district, since the establishment of the refuge with its water control system, have been greatly reduced and are almost negligible some seasons.

In view of the fact that over 20,000 birds died as recently as 1942, the highest loss in the last 10 years, Mr. Wilson's report for the period from September through December 1947 is encouraging. He stated "the loss of bird life on the refuge from botulism in 1947 was the smallest we have had, with the exception of 1943, since the establishment of the refuge." The total loss last year of less than 2,400 birds was about one-tenth that of 1942 and less than one percent of the epidemic years of 1910 and before.

Much valuable data on migration and distribution has been secured through banding operations, which have been an important project at Bear River for a number of years. At the close of 1947 a total of 35,337 birds had been banded, with approximately 2,850 recoveries or returns. The highest percentage of migrants move westward into California and the Pacific flyway. Some move due south into New Mexico, Arizona and Mexico. Others enter the central flyway in Colorado and move south-eastward into Texas. Few birds are taken east of the Mississippi River, but there are records of Redheads and Canvas-backs being recovered on the Susquehanna Flats in Chesapeake Bay.

There is an observation tower at the headquarters where one may view the entire 100 square miles of the sanctuary. Looking down from this vantage point, the two outstanding impressions of anyone not accustomed to the vast expanse of western prairies are the absence of trees and the naturally flat terrain of the valley. This flat character of the land may be appreciated by considering the fact that the variation in the level of the refuge (exclusive of the works of man) is only three feet.

Altho we drove for many miles after leaving headquarters, there was no time when we could not see hundreds of Canada geese stretching across the water from the roadways. These magnificent birds were almost invariably in pairs with their families of little goslings. I neglected to ask about the age of the young but I presume that it was from 2 to 3 weeks.

When I commented about discrepancy in size of families, Mr. Jensen explained that the parents have a habit of collecting the offspring of their neighbors. As a result, some pairs had only one or two goslings while others had normal families of five, or double families of eight to ten. One enterprising couple had collected enough for three families. The young of this particular pair were in such a compact group that we could not count them but there were at least 14 and probably as many as 16.

Although the Avocet was the most abundant nesting shorebird, to me it was the most interesting. We stopped where 100 or more were nesting at the side of the road, some in low vegetation and others on the open ground. If two or three eggs in a slight depression of the sandy soil may be regarded as a nest, there was one area with six nests in a 12 foot square.

The broken wing act of these birds, particularly due to their long legs, struck me as a clownish performance. Then the whole affair was made more amusing by birds quite a distance from us giving a much bigger show than most of those near by. It was also quite apparent that they were actually not much disturbed — that their actions were merely a good example of inherited behaviorism.

Other common nesting shorebirds, seldom or never seen in Illinois, were the Long-billed Curlew, Western Willet, Black-necked Stilt, and Wilson's Phalarope. When I first saw the Long-billed Curlew 10 years ago, it was pointed out to me by a friend who referred to it by its very descriptive common name of "old sickle-bill." At that time I wondered at its ability to hold its head so erect when walking and how it was able to stretch it forward in flight in the manner of a crane. Seeing the bird once more, again I found it difficult to reconcile its easy graceful movements with the laws of physics and the burden of its immensely long bill. The length of the bill varies in individual birds from four to more than eight inches and I found myself looking for the "prize-winning" bill among the flock I was watching.

Birds with a black and white color pattern often appeal to me more than those of bright colors. Consequently I was fascinated with the flashing black and white wing pattern of the Western Willet and the dainty Black-necked Stilt's striking black upper parts and pure white under parts.

While we watched a flock of Wilson's Phalaropes spinning and bobbing in the water, Mr. Jensen told me that the number present in the fall had been estimated at 100,000. As I tried to visualize such a sight I thought of the excitement caused on the Chicago Ornithological Society field trip to Waukegan last year when more than 50 people at one time surrounded and breathlessly watched one little bird of this species.

Although the refuge is primarily a sanctuary for waterfowl, a list of the birds recorded there includes 65 of the passerines. I did not have the time to give these much attention, but it was a continual pleasure to watch the handsome Yellow-headed Blackbirds. They were abundant and had a tendency to congregate about the spillways. It was therefore possible to sit in the car and observe them at a distance as close as ten feet. They also

reminded me of field trips to Waukegan with those who had spotted it pointing out to their friends a single yellow-head on its distant perch a quarter of a mile across the marsh.

No effort has been made to comment on all the birds seen as I am well aware that a record of observations of this nature is necessarily subjective. Another visitor covering the same ground would doubtless be more impressed with some of the species not mentioned. Perhaps he would be more pleased by the presence of the Brewster's Egret, the western race of the Snowy Egret, or the White Pelicans that nest on an island in Great Salt Lake and make a daily round trip of 70 miles to feed on the refuge.

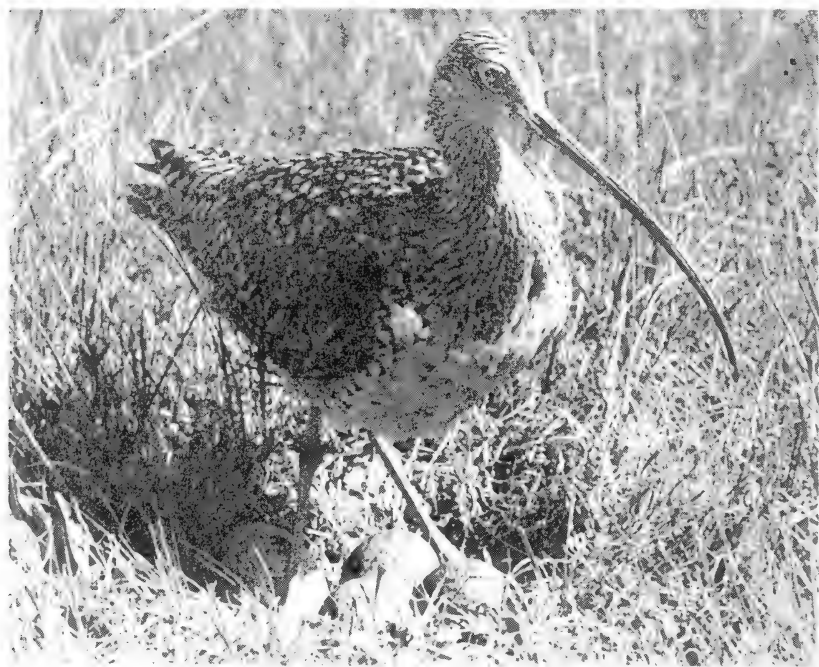


Photo by W. F. Kubichek, Fish and Wildlife Service

Long-billed Curlew

Near the end of our drive we came upon one of the most interesting sights of the day — a sight to delight any bird student. Apparently I had stopped watching the roadway for a minute because I was unexpectedly aware of a tremendous concentration of birds in the air and all about the ground immediately in front of the car. Then I realized we were in a colony of nesting California Gulls. I had never seen nesting birds in such numbers before, except in motion pictures, and I was so impressed that I neglected to ask about the number of nests. However, the records show

there were 3,097 nests on the refuge last year, estimated to have 6,000 young. In 1946 there were 3,514 nests with young estimated at 8,656.

It was necessary to drive cautiously as the nests cluttered the entire roadway. As we moved slowly along, the gull nearest the car would fly away, but never more than 12 or 15 feet, and then immediately return to the ground. Mr. Jensen called my attention to this, saying that it was because each pair had to protect its eggs from its nearest neighbors.

After we left the road with the flashing wings of the gulls and went on toward the gate where our trip ended, I wondered about the total number of birds I had seen at Bear River. It was, of course, many thousands, and yet it was only a small fraction of the number one would see at the height of migration.

At that time the number of ducks alone approaches 1,000,000. Add to this the big concentration of geese, hundreds of thousands of shorebirds and other thousands among the other Orders associated with water. Even with the passerines excluded the total becomes so large that the actual figure is only an interesting speculation.

If we care to become still more involved with figures we might consider that the refuge is only 100 square miles in a very large county. This county includes miles of salt flats, thousands of acres of prairies and marshes, and nearly every other type of American bird habitat, with elevations running up to snow covered mountain tops. How many birds in the county? One of our well known ornithologists very likely answered the question when he suggested that there are probably more birds in Box Elder County than any other county in the nation.



Tri-Cities Forms New Bird Club

WE ARE PLEASED TO ANNOUNCE the formation of a new bird club in the cities of Moline and Rock Island, Illinois and Davenport, Iowa. The officers of the new organization, which will be known as The Tri-City Bird Club, are Mr. James Hodges, Davenport, President; Miss O. Ruth Spencer, Moline, Vice-President; Mr. Russell Siverly, Davenport, Secretary-Treasurer. The Tri-Cities area is an excellent section for bird observation and study and the Illinois Audubon Society extends its best wishes for the rapid growth and success of the new club.

An effort is being made to maintain an up-to-date list of all clubs in the state and members of the I.A.S. are asked to inform the editor of the *Bulletin* when they learn of the formation of any new club or the election of new officers for any of the established clubs. Any unusual news items from any of the clubs is also invited.



A RUDDY DUCK WITH YOUNG has been reported by Mrs. Margaret Nice as seen at Calumet Lake on July 4. The most recent nesting report we find for this region was in July, 1927.

The Family *Icteridae**

By ANNA C. AMES

2. *Yellow-headed Blackbird*: The Yellow-headed Blackbird looks as though he had dipped all of his head, neck, and chest in a keg of bright yellow paint. Otherwise he is black except for the patches of white on his wings. Indeed he is striking in a beauty that he neither is able to hide nor wishes to hide. His mate is also unusual in appearance, for though she is largely grayish brown with a yellow throat, cheeks, and superciliary line, her dark breast is streaked with distinct white lines. She is smaller than the male bird. The young are like the female but have the head dark brown. The year-old male in its first breeding plumage is brown with a yellow face, throat and bib.

Some consider the Yellow-headed Blackbird the Beau Brummell of black-birds. Certainly the yellow-heads are always decidedly noticeable, whether one sees them in migration as I have done in Nebraska in a flock of from forty to sixty male birds settling on a flat piece of ground to feed, or merely observes a few birds from a passing car.

This bird is one that seems to be extending its territory northward. Certainly I was greatly surprised one summer to observe a flock of a dozen or more close to the hotel where I was staying on the north shore of Lake Superior. I was told by an old resident that they had never before been seen there. They assuredly add color to any landscape. These birds breed from western Canada south to northern Mexico and east to Wisconsin and Indiana; they winter in the southwestern United States to Louisiana and south to southern Mexico.

The Yellow-headed Blackbirds are pre-eminently birds of the Great Plains, where they are a conspicuous feature of swamps and sloughs. I have observed them particularly in the Dakotas, in Iowa, and in Nebraska. Wherever they breed they congregate in large numbers sometimes composed of thousands of birds, as different colonies often breed in close proximity to one another. They are very loyal to their home-site, returning year after year. Even though the surroundings may have undergone great and uncongenial changes, the birds leave only with the drying up of the marsh. They are very closely restricted to their breeding haunts, though they forage far afield from them, visiting corncribs, grainfields, barnyards, and hog pastures. In this habit they resemble the Cowbird more than they do the red-wing.

In most of his ways, however, the yellow-head resembles the red-wing, hanging his nest in the reeds of the marshes, gathering in large flocks after the nesting season, moving to the uplands to feed on grain and weed seed, and returning at evening to the roosting places in the marshes.

The typical yellow-head's nest is woven of rushes around upright canes, and is a large, firm, inverted-cone-shaped, basket-like affair. It is

*This study by Mrs. Ames, begun in the June issue, will be continued in succeeding numbers until the entire family has been described.

placed at from four inches to two feet above water and is quite deep inside. The four to six eggs vary from dull grayish white to pale olive, and are thickly speckled with shades of brown or gray, and usually faintly penciled and dotted with black or dark brown.

The yellow-head is considered a noisy bird. Its only notes are hoarse chuckles and squeals, all produced as if the effort caused discomfort, if not actual pain. Even the ordinary call-note is a hoarse, rattling croak that suggests a chronic sore throat. The female's voice is less harsh, but not musical.

This blackbird is among the birds of doubtful usefulness. Locally its numbers are often great and it may at times do considerable harm. However, insects harmful to vegetation constitute about thirty percent of its food, and are mainly beetles, grasshoppers, and caterpillars. It often eats the army worm.

3. *Rusty Blackbird*: The Rusty Blackbird is sometimes called the Thrush Blackbird, as in flight and shape of bill he somewhat resembles a thrush. The male bird in spring has a pale yellow or yellowish-white eye. His plumage is a uniform black, faintly glossed with bluish green changing to dull violet-bluish on head and neck. At this time the female is slate colored. Adults and young in autumn and winter are more or less tinged with rusty, closely barred beneath. The female has a broad white stripe over the eye. "In fall and winter edges of the feathers are margined with brown," particularly on the female. "These edges all wear off during the winter, leaving the males blue-black and the females almost as gray as Catbirds." The female rusty is lighter in general coloration than the female Brewer's.

"The rusty is not so widely known as other blackbirds, as it breeds chiefly in rather inaccessible places in the northern United States" and particularly in Canada. Its breeding range extends from the limit of trees in Canada south to central Ontario and northern New York and northern New England. It migrates through the eastern United States to the Great Plains; it winters chiefly in southern U. S. east of the plains. In summer its range begins where the Brewer's leaves off, nor is it often within the winter range of the Brewer's.

In spring the Rusty Blackbirds come north early, "often when there is still snow on the ground and ice in the edges of the streams." They are "the most nearly aquatic of blackbirds and in spring feed in shallow water, where they find insect larvae and probably some small crustaceans or other forms of life. At times they wade quite deeply in water, plunging in not only their bills but also their whole heads. In autumn they are not so closely confined to water and often frequent weedy gardens and cornfields. More forest frequenters than most blackbirds, the Rusty Blackbirds may be found most often along the swampy borders of woodland lake, swamp, or stream." At night they roost in marshes or in bushes growing about open water.

The Rusty Blackbirds are among the last of their family to go south, and sometimes small flocks remain in southern New England well into the

winter months. In autumn great flocks of these birds may be observed in the trees and shrubs of the campus of the University of Illinois.

The *chack* or *chuck* of the rusties resembles that of other blackbirds, but their song — if so it should be called — is unmistakable. It sounds like the creaking of a rusty hinge and is rather penetrating but not altogether unmelodious. Nothing else in the eastern United States closely resembles its fine creak or whistle intermingled more or less with gurgling or choking sounds.

The nest of Rusty Blackbirds, placed in bushes or small trees — alders or willows — within a foot or two of water, is rather bulky and is constructed of layers of leaves, grass, and muck, often lined with fine *bright green* grass. The bluish-green eggs are blotched and spotted with different shades of chestnut, sepia, and drab, but are distinctive in that the pen lines and scrawls characteristic of the eggs of other blackbirds are nearly always absent.

In spring these blackbirds feed mostly on insects but eat also weed seeds and waste grain. Numerous water beetles and their larvae, snout beetles, leaf beetles, May beetles, and great numbers of other beetles, nearly all of which are harmful, compose part of their diet. In the autumn, in the cornfields, stubble fields, and beech woods, the birds eat the same kinds of food as in the spring, though probably the percentage of insects is even higher. They eat little wheat, oats, or corn, and are really helpful to agriculture.



"LIFE HISTORIES OF NORTH AMERICAN NUTHATCHES, WRENS, THRASHERS AND THEIR ALLIES," another volume in the series by Arthur Cleveland Bent, has just been published.

It comprises 475 pages and 90 plates in black and white. These issues in the past have usually been sold out quickly, but as long as it is available the current number, United States National Museum Bulletin 195, may be purchased at \$1.75 per copy, from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D.C.

This is a continuation of Mr. Bent's most excellent series of Life Histories, of which many volumes are unfortunately out of print. A start has been made, however, toward reprinting them commercially, which we trust will be continued as it deserves success.



THE MEMBERSHIP COMMITTEE urges all members to continue to send in the names of their friends who should be members of the ILLINOIS AUDUBON SOCIETY. As announced in the June issue of the *Bulletin*, ALL members who secure 6 or more new members, will be given a free copy of Kortright's beautiful book, "The Ducks, Geese & Swans of North America" regardless of whether or not they are one of the winners in the membership contest.

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

ACTIVE MEMBERS	\$2.00 annually
CONTRIBUTING MEMBERS.....	\$5.00 annually
SUSTAINING MEMBERS.....	\$25.00
LIFE MEMBERS	\$100.00



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THE
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Telephone LINcoln 9-0606

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*The Society invites the membership of all bird
lovers and those desiring to support its activities*

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Observations of a Hill-billy

By LOUIS G. FLENTGE

SINCE MOVING FROM THE PLAINS of Illinois to the hills of Arkansas we have been forced to accept the inevitable and become known as "hill-billies." Our first impression was one of disgust at being referred to as such but the idea has grown on us to the point where we are honored by the implication. At least, we have found the birds again and they have found us and together we will spend many hours of relaxation and enjoyment in our mutual understanding.

Do you sometimes wonder what happened to the Bluebirds that used to nest in your back yard? They are here in the beautiful Ozarks where they are relatively safe from the depredations of the neighbor's cat and the speeding automobiles. I remember an experience of a few years ago that proved to be quite disheartening. Having read of the wonderful success of Mr. Musselmann in attracting Bluebirds to nesting sites along the country roads, we decided to attempt a similar project. We put out a number of Bluebird boxes along a number of country roads and religiously inspected the boxes at regular intervals. We were rewarded by having a few Bluebirds nest in some of the boxes. The percentage was relatively small and over a three-year period we decided to give it up for a bad job. It seems that the houses provided nesting places for sparrows if placed too close to a building. When placed in a pasture, the cattle used them for scratching posts and invariably knocked them to the ground. If placed close to the road, the tourists made a point of stopping to investigate, often removing the top or side of the house and forgetting to replace it. Then there was the problem of dogs which seemed to always turn up when we made our regular inspection of the boxes. After three years of this we could not see that we were making any progress, so abandoned the Bluebird project.

We were left with about a dozen Bluebird boxes that had been presented to us by a director of the Illinois Audubon Society and shame-facedly we admit that they were stored in our basement for a number of years. When moving to Arkansas we decided to bring them along and put them up somewhere on the farm just to see what would happen. Arriving here on June 15th we were sure that the nesting season was too far advanced to do any good for this year but for lack of a better place to put them we nailed three of them to posts near the house. The next morning a pair had started to build in one of the houses and before the week was out another had been taken. Now we are enjoying the fruits of our labors. We are being rewarded for our small effort by several families of Bluebirds that spend

the entire morning on the fence wires and the posts near one of the boxes. Nearly any morning we can look out from our living room window and see anywhere from 50 to 100 Bluebirds enjoying our hospitality. Seeing them here in apparent safety and contentment we no longer wonder why they have disappeared from the lurking shadows around the larger villages and cities. They have found their proper environment and have accepted it as their own.

The reward for such a small effort has given us a burst of incentive to provide more nesting sites for them next year, and if our plans work out we hope to have several hundred boxes ready for them in the spring. Our own farm will support a hundred boxes easily and our neighbors will be only too glad to cooperate with us. This is the hill country where "Love thy neighbor" is not the name of a song, but rather one of the unwritten laws.

The Mockingbird is an every day guest and seems to spend most of his time in glorious song. During the early summer months they would sing most of the night as well as all through the day and it was not unusual to hear them singing at midnight. Now (October) they sing only during the daytime but are at it from dawn to dusk. We took time off from the business of getting settled and putting our things in order to band a nest of young mockers on the day we arrived here. We have caught a few in our traps and find that they are attracted only by water. In fact nearly all of the birds banded to date have been taken with water as bait.

A few weeks ago we turned our dairy herd into a pasture that had not been used for about a month. We were thrilled to find a nest of the Bobwhite after a few days, only to be disappointed in finding that it had been deserted after turning the cattle into the pasture. We felt that we were to blame for the nest being deserted but had no way of knowing its whereabouts until the bird was flushed by one of the cows. Examination of the 17 eggs showed that they had been incubated for several days and most of them seemed to be fertile. Even at this late date we see families of Bobwhites that look to be only a few days old and are surprised that they would be bringing off their broods so late in the season.

The Cardinals are numerous and today we were able to catch our first individual for banding (October 10), a male with the most pronounced red top-knot we have ever seen. He seemed so much brighter and larger than the Cardinals we are used to in Illinois and we wonder at the difference in their calls. There is a difference but we are unable to put our finger on just what the variation amounts to.

To a city-weary bird-bander the Ozarks seem to be the place for new plans and new ambitions. The birds are here to enjoy and the surprises are many. Birds that we were acquainted with as winter visitors in Illinois are permanent residents here and the thrill of catching a Titmouse in Illinois is small compared to the thrill of seeing them in flocks in Arkansas and catching them in the traps two at a time. Hill-billies we are, but we love it.

Cardinal Farm, Berryville, Arkansas

A Year of Bird Notes

By MRS. ROSE B. ENGEL

JANUARY 16. Everything is hoar frost this morning but I hear a cheerful "*chick-a-dee-dee*." Cannot locate him in the frosty branches, but he sounds great!

February 2. Two nice fat Bluejays are hopping about in the snow near house. They seem to be picking up morsels from on top of the snow, the two most beautifully clothed and crested, one exactly like the other.

February 10. One day of thawing weather and the Horned Larks are on the road everywhere Mother Earth shows through the snow. There must be a great number of these birds in Northeast Iowa.

February 11. Flocks of Starlings, or "Bob-tailed Blackbirds" as some call them, are also out upon the road getting their grit, gravel, or what-have-you.

March 7. Two below this morning and I hear the plaintive notes of the Phoebe, long drawn out, waiting for spring. He was perched a-top of the highest willow but took off when he discovered he was watched.

March 9. Heard the Hairy Woodpecker this A.M., hard at work on a soft maple. He should be called "Rosie, the riveter"; just such a noisy drill he was using. Lots of white and one spot of red on the back of his head.

March 11. First Meadowlark appeared. His black bow looked cheerful this March day.

March 12. The Killdeer came up on the south wind today, with his "*kildee, kildee*" in the sky as he sails over.

March 13. A lone Robin perched in the tall ash tree for a minute or two and was gone. A small flock of Bluebirds went past flying north.

March 24. "My friend Flicker" is back again. Always we have the "Yellow-hammer" and as always we hear his call before we see him.

March 26. Today and for several days I have heard a not-so-familiar song, and as I took the wash from the line I located the Song Sparrow. He was along the road on the ground and up into the Chinese elm which is just beginning to leaf out.

March 29. This morning I can hear the mixed voices of birds: the Flicker's voice stands out with his loud repeated note; the Pheasant's coarse call; the Lark's lovely notes; the Blackbird's eerie song; the chirping of Sparrows; the song of the Song Sparrow; the barely distinguishable *kildee* of Mr. Killdeer; and, of course, Robin Redbreast. The Bluebirds I no longer hear, they having passed on to their summer homes; too much prairie here.

April 8. A pair of Starlings have moved into the hollow elm. He sits and watches while she carries straw and twigs. As soon as another bird alights in the tree he is advised to move on by this male. The Starling male is a beautiful bird with his white beak and red feet and glistening peacock coat. Why does he have to be a bad bird?

April 10. A Flicker came up and looked for his old home in the box elder. He found that it had been snapped off by the ice storm and did not tarry long.

April 11. Sighted a Logger-head Shrike today. Hope he does not locate here. I once had a time getting rid of a pair after I had found a baby chick with its neck eaten down to the bone and still alive. After destroying their nest and wounding the female they departed from the premises.

May 1. For the second year the Robins have built and laid before there were enough leaves to hide the nest. This spring she was smarter; she built in the arbor vitae instead of the lilac. Now, May 4, there are three naked babies in the nest opening their mouths for food. From the four sky-blue eggs they came while there is still frost and ice in the air.

May 5. The Sapsucker has riddled the pine tree again. He has two complete circles and I am afraid the tree may die. Two years ago he circled it badly, but we doctored it up and it went on growing. Now I have painted it with arsenate of lead and flour in a paste.

May 6. The Thrasher is singing from the top of the silver poplar this morning. He always picks the topmost branch. What a beautiful concert he puts on! There are some small yellowish-gray birds about, probably warblers. Saw them on the soft maples hunting food.

May 7. Just observed a fox squirrel in the old elm. The poor thing is in a quandry. The dog watches him from the ground and six male blackbirds are in the tree. One kept flying over and "blimping" the squirrel until in desperation he sought a crotch with four branches extending upward and was safe for the time being. The blackbirds sat on a branch and one would ruffle up his feathers and go *ps-sss, p-sss*, and then another would do likewise, and so on. The birds finally grew tired of their vigilance and flew off.

May 9. The gray Catbird arrived yesterday with his harsh "*kee-aat, kee-aat*" in the top of the old apple tree. His cry seems similar to the scream of the Blue Jay. He is an annual nester here. Found an odd thing along the garden fence yesterday. Never expect to see the like again. One of our white Guineas had made a nest there and in it was one Guinea egg, one Pheasant egg, and one Cowbird egg.

May 19. Saw a pair of Rose-breasted Grosbeaks in the elm tree early this morning. Their large beaks and the splash of their red breasts were easily seen. The female was a sort of rose mixture, but the male was as bright as red could be.

May 20. Sighted a Baltimore Oriole in the wood lot. Lots of Thrashers about. A pair of Bluebirds flew along the highway near the woods, first I have noticed this late; must have nested near Summer. At home a Ruby-throat was getting his supper from the flowering currant. A Nut-hatch went up the tree hunting food. The Kingbird quarrels with the Blackbirds.

May 27. The Brown Thrasher has a nest in the brushpile near the

garden, four eggs therein. Noisy Wrens are here; they always let you know when they arrive. Heard a pair of "jay-thiefs" fly over. A pair of swallows are in the barn. Robins are building their second nest. Best time for observing birds is just about daylight—not so many of their enemies are about. Kingbirds are around. The Starlings have left their elm tree. What happened to their young—never saw them come out? Perhaps they were drowned in their hollow as there was not much cover over their home after the ice storm.

June 8. Three baby Thrashers are in the nest from four eggs; have very rapid respirations. The Catbird is building in the arbor vitae tree.

June 11. Five Goldfinches feeding among the flowers, two males and three females. No cute black caps on the females, but their white wing bar shows more.

June 12. The Catbird has three eggs in the nest. It is fastened to the wire fence on one side. Took a look at the baby Thrashers and got "biffed" on the head two or three times by the irate mama.

June 14. Thrashers are out and gone. One egg didn't hatch and was still in the nest; Nature is not always sure-fire. Lots of sputtering about by the parents, lots of strawberries eaten.

June 15. Two baby Catbirds in the nest. Been hearing the Cuckoo in the trees; sounds like a clucking hen. Must be some baby Song Sparrows as they are carrying food.

June 16. Hay-making time. Blackbirds long since gathered in flocks. Eight Robins took off from the strawberry bed. They are after the raspberries also. Are the sparrows having fun! Nearly every morning I see a flock settle near an open glass tobacco jar in the flowers. One will land inside and the others will peck at him on the glass. This will go on for some time until something disturbs them. The Wren is building again; must be her second or third nesting period. The choke cherry tree is stripped of fruit before the cherries are ripe. Now I know we didn't plant it for jelly. Birds love the "Choke and the Poke."

July 30. The Cuckoo is still about, or rather three of them, one baby. Saw one take three tent caterpillars from the elm, one after another. He would hold it in his beak and shake the fur off, then swallow it. Blackbirds are a pest now; thousands, it seems, land in the trees and annoy us with their calls. Wrens still feeding a nest of young.

August 15. Blackbirds landing on the oat shocks, on the corn stalks and in trees.

September 6. Blackbirds still going south in the evening, north in the morning to the timber lands, skirting the farmyards.

September 19. Hummingbirds on the delphiniums and false dragon-head. One particular bird claims this as his stamping ground. He drives a smaller one away in a grand fight. Up and down, biffing each other until the smaller one leaves and the victor takes his rest on the lowest branch of the elm tree.

September 20. Blue Jays are passing by, resting and "thieving" before

they are on their way again. Nighthawks are skirting the sky in early evening for a late supper, leaves are falling from the old elm and making a brown carpet, while the bottle gentian is showing full glory.

September 26. Saw a flock of Cedar Waxwings in Echo Park eating blue cedar berries, about 75 in the flock. The young birds showed their stripes yet.

October 10. Lots of birds about, resting from migration: Robins, Bluebirds, Flickers and Red-heads. The Ruby-throat is still protecting his feeding site. Lots of Bluebirds along the highway to Postville; they like the hilly country. Many hawks circling the meadows.

October 11. Geese flying south today—means bad weather for us. A large flock, slow and tired, honked their way over as if looking for a landing field.

October 20. Geese still honking over; maybe had to miss a resting field.

October 27. Juncos are here and we know winter is on the way.

November 15. A pair of Cardinals and a Jay are about our home in Sumner.

November 20. Sighted a Downy Woodpecker working up the old apple tree and lilac. A daub of red on the back of his head identifies him.

December 25. A very warm day for December, and no one will believe me but I saw a flock of Blackbirds that must have gotten mixed in directions as they should be far, far south in their winter home.

Sumner, Fayette County, Iowa



THE MEMBERSHIP COMMITTEE appreciates the response which has been made to its offer of prizes for new memberships, published in an earlier issue of the *Bulletin*. At this time two volumes of "Ducks, Geese and Swans" have been awarded to members for securing six or more each. Several others are within striking distance and may claim their copies before the contest closes at the end of 1948. Not all, but a large proportion, of the increase has been in Chicago and the immediate surrounding territory. While the contest still continues the Committee is in hopes that more applications will come from other parts of the state and that there will be several more awards.



A NEW VOLUME, *Bird Hiking*, by Leon Augustus Hausman, and published by Rutgers University Press, New Brunswick, New Jersey, is being offered to the rapidly growing group of ornithologists. It should appeal to the novice because of its many and varied suggestions for getting the most satisfaction from his hikes, and to the more experienced bird watcher for its clues as to when and where to look. He also stresses what has been your editor's feeling for many years, that if you find only birds on your hikes you are missing too much of the pleasure the great outdoors has to offer in its trees, flowers, insects and animal life large and small. A rather small book of little more than a hundred pages, it still is well worth its price tag of two dollars.

Some Unusual Records

Chicago, November 9, 1948.

Editor, Illinois Audubon Bulletin:

For whatever it may be worth, we have the following to report for your Illinois Audubon record. We consider this an unusually good year for sight records, and listed below are some which we consider rare birds for this area that we have had the pleasure of seeing and adding to this year's list:

Glaucus Gull (2 adults)
Hudsonian Curlew (2)
Marbled Godwit
Buff-breasted Sandpiper
Worm-eating Warbler

Snowy Egret (3)
Desert Sparrow
Lark Sparrow (2)
Parasitic Jaeger (3)

We spent a great deal of our birding time studying nesting habits of the Chicago area birds, and among the uncommon ones observed nesting was the Yellow-breasted Chat, which was found in the Palos Forest Preserve, and in the same vicinity the Orchard Oriole nested. We later saw at least three immatures being fed by the parent Orioles. We also found evidence that the Bell's Vireo was nesting in this area.

Our most surprising and interesting nesting study was of the Mockingbird. In the early spring we had seen one Mockingbird at Orland and heard of more than one having been seen southwest of Joliet near the junction of U. S. Highways 66 and 6. We searched this area and were successful in seeing two or more Mockers busy feeding. We were delighted when one of these birds perched on the fence near the car and then proceeded to disappear into a small gooseberry bush nearby. After a while the bird left and investigation disclosed that the bush contained a nest with four eggs therein. The following weekend the eggs were intact, but two weeks later they were gone. Our disappointment in finding the nest empty and apparently abandoned was somewhat alleviated by discovering a pair of the birds going to and from a tree inside a farmer's pasture. Our repeated visits strengthened our belief that there was a nest in this particular tree. Several weeks later our hopes were fulfilled in finding a juvenile perched on the same fence as mentioned above, begging for food. The adult birds' actions made it apparent they were feeding more than one offspring. We were unable, however, to prove this assumption. Who knows, perhaps this is a start of a colony of these beautiful and interesting birds in our area.

Very respectfully,

AL AND LEE CAMPBELL



IN AN ORCHARD of apple trees some of the fruit is wormy, some scabbed, some dwarfed, from one cause and another; but Nature approves of the worm, and of the fungus that makes the scab, and of the aphid that makes the dwarf, just as sincerely as she approves of the perfect fruit. She holds the stakes of both sides; she wins, whoever loses.—*John Burroughs.*

Prodigal — and Ruthless

By C. O. DECKER

NATURE IN ITS EFFORTS to perpetuate the many species that have evolved is most prodigal; but in failing to provide sustenance for the in some cases enormous increase of these various forms, and in its efforts toward achieving a balance between the species, it is equally ruthless.

Predation, which is generally thought of as something unnatural and reprehensible, as a source of food and as a measure of control to keep the species within proper limits, becomes necessary and right. We commonly think of predators as being confined to animals or birds that prey upon other animals or birds, but the practice is much broader than that and there are predators throughout all nature.

Insects prey upon each other; fish prey upon insects and upon each other; birds prey upon insects, fish, small mammals and each other; mammals prey upon all other forms and each other; and all levy tribute upon the products of plant life for some of their sustenance. Mankind, not the least among the predators, is the only one that has placed plant and animal life under control for his own benefit and adapted them to his uses. Excess production of plants, insects (for example, the bees), mammals and birds, more than is necessary to maintain the species, becomes food for mankind, and thus we rank high on the list of predators.

Among plants the tendency to excess reproduction is very marked. Take, for instance, the common Dandelion. If all or any large proportion of the seeds were to germinate the outlook for the world would be decidedly yellow. But here enters the ruthlessness that keeps them in check. After a part have furnished food for the sparrows, goldfinches, buntings, and others, and other parts have been destroyed by various means, the portion left to continue the species is still adequate, and large enough to make plenty of work for those who have a pride in their lawns.

Suppose our waxwings, robins, etc., were to forget their taste for the wild cherry for a few years and all the seeds were to germinate. What a forest of wild cherry we should have. The same condition applies to all plant life and it is only by the most ruthless destruction that nature keeps it within bounds.

Coming up a step to the insects, we find much of the same situation. One form of beetle has been known to produce 6,000 eggs, and the great swarms of locusts have become periodical pests. Here again only ruthless destruction holds them from devouring every green plant and thus bringing about not only their own end but that of all other life on earth. Were it not for the fact that much of our birdlife depends upon insects for food, we should certainly be hard pressed to exist. Few know or realize how much we owe to our warblers, creepers, nuthatches, bob whites, meadowlarks, and all other insect eaters—which last includes some mammals and fish.

It is in the fish that nature has shown possibly its greatest extravagance in the effort to increase the species. The common mackerel will produce from 430,000 to 540,000 eggs, and is still a piker compared to a variety of

angler fish which has been estimated to produce as many as 1,345,000 in a season. All the caviare eaten in the world would not keep the sturgeon down to normal unless the eggs were destroyed in some other way. From a cod weighing less than 12 pounds there were counted nearly 2,000,000 eggs. If they were all to mature it would not be long before we could walk across to Europe on codfish. But other fish and the sea birds are the ruthless agents in keeping the cod within bounds. That the cod sometime operates on the control end is proved by the fact that at different times there have been taken from cod stomachs a black guillemot, a hare and a partridge. The lobster will produce anywhere from 5,000 to 70,000 young in a season. Before the shells on the young harden they float to the surface, where they are preyed upon by sea birds, fish, and on occasion by their own parents, and thus are regulated by the ruthless control of nature.

The mammals and the birds cannot compete with most of nature's other families in the number of progeny, but undoubtedly a far greater proportion of them mature. But, let us see what might happen if the familiar robin of your lawn were to be exempt from these restraints. A pair of robins often will raise three broods of four young in a year. Suppose these mate with those in your neighbor's tree and the next year there are 14 pairs, each raising 12 young, the third year 182 pairs, and before long you would be wading knee-deep in robins. Fortunately they are not exempt, and they and all other birds and mammals have their roles as assistant executioners in keeping the balance in nature.

The theory that the food supply of mankind would control world population was brought forward in 1798, a century and a half ago, by Thomas Robert Malthus when he wrote: "Since population is capable of doubling itself at least once in every twenty-five years, and since the supply of food can increase in only arithmetical ratio, it naturally follows that increase of population must always be checked by lack of food." And again later: "Want of food is certainly the most efficient of the three immediate checks to population. Population soon increases after war and disease and convulsions of nature, because the food supply is more adequate for the diminished numbers; but where food is deficient no increase of population can occur." A recently published study along this same line of thought, *Our Plundered Planet*, by Fairfield Osborn, states that, of the eight acres per capita of the earth's surface that are habitable, only about two acres are suitable for cultivation. When we realize that it requires the produce of from two to three acres to maintain each person it is easier to understand the low standard of living in many of the lands with long histories of occupation and low ratios of land to population. An estimated increase of births over deaths of around 50,000 per day makes one wonder how long it will be before the natural law of food supply will become a serious world question.

Sufficient and suitable food would seem in the last analysis to be the greatest factor in keeping the balance in nature. If, by any chance, any species is not kept in check by normal means, usually disease or predation of some kind, it will increase until its food supply is inadequate and

starvation and disease bring it under control. Two well-known examples in our country of the control placed upon species by food conditions are the Ivory-billed Woodpecker and the Everglade Kite. The food supply of the Ivory-bill became restricted to a certain locality with the result that the few surviving in the Singer tract are about all of the species left between them and extinction. The natural food of the kite is a snail which is fast disappearing. That shortage and persecution by hunters who mistake the kite for a hawk are bringing it dangerously close to its end.

Thus nature, having been lavish in permitting increase of its many species, corrects itself by its own ruthlessness.



Give the Mourning Dove a Break

COOPERATIVE STUDY in eleven southern states to establish facts upon which to base mourning dove shooting seasons is under way. It is about time. Not that we can see any excuse, anywhere, for classing this agriculturally valuable, four and one-half ounce bird as "game," but, if target-hungry gunners are going to be allowed to continue to shoot this beautiful and valuable dove, regulations should be based on something more than political pressure and desire to sell hunting licenses.

The mourning dove is a migratory bird and therefore under the jurisdiction of the Fish and Wildlife Service, and subject to the migratory bird hunting regulations. Mourning doves are now shot legally during the season in 26 states; the rest provide complete protection. Canada and all of the northern states except Illinois, Idaho and Oregon protect this bird. Illinois still permits a reprehensible open season starting September 1, a date upon which some twenty percent of the dove nests contain young doomed to starvation when their parents are shot. Maryland, Kentucky, Missouri, Colorado, Kansas, New Mexico, Oklahoma, Arizona, California, Idaho, Nevada and Oregon also have a September first opening date for the dove season, all undoubtedly cruelly dooming to death some fledglings.

Minnesota, through the indefatigable leadership of Guy Atherton and the St. Paul Bird Club, was the latest state to join the protectionist ranks. Nebraska, after a long closed season, fell off the band wagon in 1947 but climbed back on in 1948, when even a poll of gunners showed 74 percent for continued protection.

Dr. K. Elliott McClure, biologist, declares: "There should be no hunting of doves north of the 37th parallel. Probably the division line should be along the southern border of Virginia, Kentucky, Missouri, Kansas, Colorado, and across Nevada and central California. All of the area north of this boundary should remain as a vast breeding range to maintain the species and to provide a shootable surplus."

Yet today the mourning dove is still being shot where it should not be shot, and is a favourite target farther south, where too little is known about its habits. It is a frequent target for boys, who kill many immature doves whose minute amount of edible flesh is too little to bother with, and the birds are left to rot.

We need some real conservation leadership in those states where the dove should be given complete protection, starting with Illinois, which is a wildlife conservation desert anyway. And, if we are not to send the mourning dove down the tragic path of its cousin, the passenger pigeon, we must have some courageous conservation leadership, federal and state, to manage the bird intelligently in the South.

Nature Magazine, October, 1948



The Family *Icteridae**

By ANNA C. AMES

4. *Brewer's Blackbird*: The other name of the Brewer's Blackbird is Blue-headed Blackbird. Mr. J. Ellis Burdick in *Birds of America* says that the Brewer's Blackbird is "handsomest of all the blackbird race." I have been inclined to agree with him in this statement ever since the fortunate day when I saw a flock of several dozen of these birds in the Touhy area of Chicago. As the birds rose in flight with the sun shining upon them they looked almost unbelievably blue. I thought then that I had not known that a blackbird could be so beautiful.

The Brewer's Blackbird is a very common bird in suitable localities throughout its western range. He is a rather slim and sleek looking bird with a square-ended tail, all black at a little distance but showing violet reflections on his head and neck, and bluish-greenish iridescence on his body plumage when seen in a good light. Like the grackles he has light yellow eyes. His mate has dark brown eyes. Where he is most at home "he does not hide his beauty in some woodland solitude but comes freely about barnyards," where he lords it over poultry and English Sparrows. He has the habit of walking about with wings slightly drooped.

As is the case with all blackbirds except the Rusty, the female of this species is smaller than the male. Her head, neck, and underparts are a brownish-slate color, but she is faintly glossed with greenish on the underparts of her body and on her head and neck. Her wings and tail are strongly glossed with bluish-green. The young are duller than the female. Irregularities sometimes occur in Blackbird as well as in other families. I once saw a Blackbird (Rusty or Brewer's; I am not sure which) with a decided band of yellow on the end of the tail.

The voice of the Brewer's Blackbird is not anything to admire. His note sounds like *chink* or *check*, and his song, so-called, is wheezy, rusty, and squeaky.

The courtship of this beautiful bird is a simple affair. "The males walk about slowly, occasionally raising the head and neck straight up in the air and holding them so for a short time. Every little while they pause and puff out the body feathers." The love song is a sputtering, rather ludicrous attempt at music, but has the effect desired. Though the male

*This study by Mrs. Ames, begun in the June, 1948, issue, will be continued in succeeding numbers until the entire family has been described.

may seem quite attentive to his mate, he does not assist her in the home building.

In its "original western home the Brewer's Blackbird nested commonly in bushes and small trees, but as an immigrant it nests on the ground, rarely elsewhere." In all locations the nest of the Brewer's Blackbird is usually low but sometimes as high up as thirty feet in trees or bushes. It is constructed with a rough, coarse foundation of twigs, plant stalks, bark and rootlets mixed and held together with manure or mud, and lined with finer, similar materials with the addition of horse- or cow-hair. The eggs are dull white or grayish or greenish, so thickly marked with brown, lavender, and blackish that the ground color is obscured.

Principal nesting places are in unsettled districts, in the trees or around the edges of marshes on the outskirts of colonies of red-wings or yellow-heads. Often, however, the nest is built in the trees near farmhouses. The Brewer's Blackbird is quite gregarious, but breeds in colonies of from five to ten families—much smaller groups than those of red-wings or yellow-heads. Later it joins other blackbirds in large congregations.

Nesting colonies of this species are now to be found in localities where twenty-five years ago it was unknown. As it is an aggressive and meadow-loving bird, it is feared that in some areas "it may displace the Bobolink, which selects similar home sites." It returns in spring earlier than the Bobolink, and so is on the ground before it.

Doubtless these blackbirds eat freely of cherries and sometimes of newly-sown wheat, but will leave either one to follow plow or harrow for grubs and insects. They are very helpful in an orchard infested with cankerworms, as they work from tree to tree cleaning out the insects as they go. While they might prove a menace to oats or wheat if they were very abundant, they are eaters of grain chiefly in the winter. From the time of sowing to the end of harvest less than 24% of their food consists of grain.

The Brewer's Blackbird is still not common in the Chicago area, but it is one of the western birds that is extending its range eastward. It breeds from central British Columbia and central Manitoba to Lower California, New Mexico, and western Texas, and from the Pacific to north-western Minnesota, Wisconsin, and northern Illinois.

IRREGULAR MEMBERS OF THE FAMILY *ICTERIDAE*

The Bobolink, the Cowbird, and the Meadowlark stand apart from other members of the family *Icteridae*, as they are neither Grackles, Blackbirds, nor Orioles.

1. *Bobolink*: The Bobolink is a distinctive bird. There are none like him, none. Birds differ greatly one from another in coloration, form, flight, and in other particulars, yet the members of any one family generally have a readily recognizable resemblance. A sparrow is always a sparrow as a blackbird is always a blackbird. But the Bobolink stands apart.

Perhaps the Bobolink more nearly resembles the Longspurs in appearance than he does the members of his own family. His black underparts

remind one of the Chestnut-collared Longspur and, to a lesser extent, of the Lapland Longspur. With his song in mind, John Burroughs called the Alaskan or Western North American Longspur the "Northland Bobolink." Yet no bird lover could mistake a Bobolink for a Longspur.

The Bobolink is our only American songbird that is black below and largely white above. Because of the black and white striping of his back he has sometimes been termed the "skunk blackbird," an opprobrious name unworthy of a charming bird. His buff collar is in striking contrast to his otherwise black and white feathers. The Bobolink is at its best in plumage and in song in the months of May and June. In August the males lose their striking plumage and assume the yellowish-buff sparrowlike garb of their mates. Bobolinks moult twice yearly; other members of their family only once.

"The Bobolink's bill is more like a sparrow's than that of any member of his family except the Cowbird." Bobolinks, male and female, have rounded tails with the quills pointed like those of woodpeckers, yet they are birds, not of the trees, but of the meadow grasses.

The Bobolink's song is individual. No other bird tries to imitate it. It sounds as if the author were bubbling over with a spontaneous joy which he manages to impart to some degree to the listener. The bird rises on quivering wings from the grass and bursts into song and then drops into the grasses again. Sometimes, but not often, the Bobolink sings from a fence post. As George Gladden says, "His song stands alone in the musical utterances of American birds." Of course the males precede the females in spring migration, and when a dozen birds sing together they make a splendid chorus. The song is "all of the joy of life." The call note is a metallic *chink*. Roger Tory Peterson says that the bobolink's flight note, *pink*, heard overhead in the summer and fall, is unlike any other bird note.

Bobolinks seem to like a little rain. In a light shower a Bobolink will perch on a weed top, seemingly entirely happy, for minutes at a time. Edna St. Vincent Millay mentions this in saying,

*Only the Bobolink
On the rainy rhubarb blossom
Knows my heart.*

The Bobolink's nest is usually not to be found in the grasses of field or meadow. It is there, in a fairly deep little depression, but the male gives prompt warning on the appearance of an intruder, and the little mother bird steals silently away. The eggs, four to seven in number, vary in color from pale gray to pale rufous and are marked in differing shades of brown, gray, or lilac. The fluffy buff and yellow balls that are the Bobolinks' children readily conceal themselves.

Like the Red-winged Blackbird, the Bobolink sometimes has more than one wife. While rearing their young, the Bobolinks make insects their chief food. Later the entire family turns to a vegetable diet. In the North the birds do little damage to grain. In earlier years they were considered a pronounced nuisance to the rice-growers of the South. Now that rice-growing has lessened in the Southern states, Bobolinks may be more kindly

regarded. However, the Bobolink is said to be of excellent flavor, and during the fall migration many are still shot that epicures may have their "reed-birds on toast."

The Bobolink has long been a favorite with authors. Much has been written of him both in prose and verse. Lowell, perhaps, has done as well as anyone in saying that the bird is "sunshine winged and voiced." This poet continues:

*Gladness of woods, skies, waters, all in one,
The Bobolink has come and like the soul
Of the sweet season vocal in the bird
Gurges in ecstasy we know not what.*

And also: *June's birdesmaid, poet o' the year,
Gladness on wings, the Bobolink is here;
Half-hid in tip-top apple bloom he sings,
Or climbs against the breeze with quivering wings,
Or, giving way to 't in mock despair,
Runs down a brook o' laughter, thro' the air.*

Normally the Bobolink is a bird of the river valleys of eastern North America, but it breeds from southern Quebec, the Cape Breton Islands and New Jersey west to northeastern California. Its range has increased greatly with the increase in areas of cultivated land. Within comparatively recent years it has extended its range to eastern Washington and British Columbia. The birds migrate at night.

"The Bobolink spends the winter south of the Tropic of Capricorn, in southern Brazil and northern Argentina, nearly 5000 miles south of his breeding grounds in the northern United States and southern Canada."

The Bobolink travels farther than any other member of its family. The main migration route is from Florida to Cuba, to Jamaica, and across the Caribbean Sea—the "Bobolink route." "It migration exceeds by several thousand miles the distance traveled by the Meadowlarks, Cowbirds and the various blackbirds, which merely retire to the Southern states or to Mexico, and exceeds by over a thousand miles even that of the orioles, which go to Central or South America." (Arthur A. Allen)

In the meadowlands of my childhood Bobolinks frolicked and sang, "my heart remembers how."

2. *The Cowbird.* The North American Cowbird occurs in one or another of four forms from southern Canada south through the United States and in most of Mexico. It winters in the southern United States and in Mexico.

The Cowbird is perhaps more despised than any other, for it is the only parasite among North American birds. There are species of Cowbirds in South America that are partly or wholly parasitic and one that is not parasitic at all. This Dr. Herbert Friedmann considers "the normal condition of the Cowbird stock from which the others have departed, losing gradually the normal adjustment of the reproductive cycle, until, as in our Cowbird, absolute parasitism is reached."

The Cowbird takes no interest in its offspring, but leaves their rearing entirely to other birds, usually to species smaller than itself. During the nesting season both sexes go roving about the country in flocks, from which the females detach themselves for short periods to place their eggs in the nests of other birds. Usually but one egg is deposited in a place, but sometimes two or three. The Cowbird sometimes removes an egg of the bird she is imposing upon. Roberts tells us that some two hundred species and sub-species of birds have been listed as thus victimized, and Dr. Friedmann reports that ninety-one species have been definitely recorded as rearing young Cowbirds. "For every Cowbird that comes to maturity a brood of some other species must perish" (E. H. Forbush). Usually the fosterparents are the smaller perching birds. I once saw a Cowbird's egg in a Cardinal's nest. Few birds seem to recognize the unwanted eggs imposed upon them, but the Yellow Warbler reacts by building a second nest over the first and sometimes, if need be, a third nest over the second. Several other warblers refuse to incubate any Cowbird egg found in their nests and a Robin or a Catbird will throw one out immediately. The eggs of the Cowbird are white or bluish-white marked with brown and gray, and are larger than those with which they are associated. The young are said to leave the nest seven days after hatching.

Authorities differ in their views in regard to the Cowbirds establishing a particular territory within which the female operates. Eggs judged plainly to belong to different Cowbirds have been found in the same nest. Dr. Roberts says that he once observed two females trying at the same time to enter a Yellow Warbler's nest. Dr. Friedmann states that not only does the female have a definitely marked off breeding area, but that the male bird has a definite post during the breeding season. However, Cowbirds do not defend their respective territories, if any, but restrict their methods of defense to an intimidation display.

The incubation period of the Cowbird is but ten days, while the similar period of most birds it parasitizes, such as sparrows, warblers, and vireos, averages eleven or twelve days. This gives the young Cowbird a day's start over the rightful nestlings, which is a great advantage, as birds do not feed their young in rotation and thus make sure that each has a rightful share. When the parent bird brings food, the baby with the most gaping mouth and the longest neck receives the coveted morsel. In consequence the young Cowbird gets the greater part of the food while the other little birds starve or are crowded from the nest.

When the young Cowbird leaves the nest it develops a most insistent food call and often it appeals to birds other than the foster parents and successfully begs food from them. For a time the obnoxious young bird may roost with English Sparrows about houses. Then he resorts to marshes with blackbirds and starlings and many cowbirds.

Nobody loves a Cowbird, yet the male bird is really handsome in his glossy greenish black, with a coffee-colored head. He is the only American blackbird with a brown head. The female and young are very ordinary looking in dull brownish-gray. The Cowbirds have a sturdy daring that

perhaps should appeal to us, if we do not resent their seeming boldness. All Cowbirds hold their heads high. They do not allow themselves to be quickly disturbed by the near approach of passersby in the parks, but hold their ground. Anyone who wishes may observe a Cowbird at close range.

There is nothing attractive about the Cowbird's note, a low *chack*. In the mating season the male gives a liquid, wiry squeak accompanied by a spreading of the wings and tail.

From tabulated reports of its food habits it is easily evident that if its diet alone were considered the Cowbird would rank as a beneficial bird, but its destruction of the young of so many species that are as valuable or more than itself overbalances the good it does as a seed- and insect-destroyer. It is estimated that the lives of from two to five other birds is the price of each Cowbird. About 22 percent of its food is animal matter and 78 percent vegetable. Its best work is in destroying grasshoppers. It also eats boll weevils and caterpillars. It does no harm to cultivated fruits. Its vegetable food consists mainly of weed seeds and grain, the former predominating and the latter being largely waste. Perhaps it should be remembered that the Cowbird is one of the most efficient checks on the undue increase of a large number of species.

Many unpleasant things have been said of the Cowbirds' sexual relations, but after five years devoted uninterruptedly to the study of Cowbirds in North and South America Dr. Herbert Friedmann concluded that it is monogamous, "but open to, or not protected from, the advent of polyandry." The facts that the number of males greatly exceeds that of females and that the birds do not defend their territories make the possibility of polyandry greater.

Cowbirds are always gregarious and flock more or less the year around. They walk about with tails lifted high from the ground. Groups may often be seen walking sedately about among cattle in pastures, hence their name. Sometimes they are of service to the cattle, as when they alight upon their backs and seize the insect parasites, flies, etc. to be found there.

Cowbirds sometimes associate with blackbirds or starlings, but they usually roost by themselves, frequently in coniferous trees. Another favorite roosting place is in grass and reeds far out on wide meadows.

Two subspecies closely akin to the eastern Cowbird are the Sagebrush Cowbird of the West (Minnesota to Washington to Utah and Colorado), and the Dwarf Cowbird (Mexico and southern California, Arizona, and Texas).

The Red-eyed Cowbird of southern Texas (breeding as far north as San Antonio), eastern Mexico, and central America has black plumage, dull in the female and silky in the male. The adult male has a conspicuous erectile ruff on the sides of the neck. The eggs of this species are plain bluish-green without spots. The Bronzed Cowbird, closely related to the red-eyed, lives in Mexico, but sometimes wanders over the border into Arizona.

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

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THE AUDUBON BULLETIN



T H E
ILLINOIS AUDUBON SOCIETY
(ORGANIZED IN 1897)

For the Protection of Wild Birds

Affiliated with

The Chicago Academy of Sciences

2001 NORTH CLARK STREET

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The Upland Plover

By DOROTHY HELMER

"EXPLORING ACTION INSTEAD OF THINGS" is the intriguing title of an article by Dr. Austin L. Rand on Arizona birds and mammals, their behavior patterns with their biological meanings. In other words, instead of planning a far wilderness trip to look for rare birds and mammals, he undertook a different sort of search among our more familiar species to discover "how they live and why they do things." Still closer to home, in his study of the upland plover in the Chicago region, Cleveland P. Grant appealed to the hunters of game birds to learn the fun of watching bird habits, "hunting birds with binoculars to explore the seasonal cycle of their behavior."

Making our first attempt in this field, after a few seasons spent in learning a fair list of birds throughout the year around Chicago, my husband and I had a good time last spring and summer watching the seasonal behavior cycle of the upland plover.

As most of us know, the upland plover, *bartramia longicauda*, is not a plover at all but belongs to the sandpiper family, *scolopacidae*. Old-timers called him the Bartramian sandpiper. He was discovered, described as a new species, and named after a friend by Alexander Wilson.

He now is called the upland plover because of his habits. Living in the uplands and prairies, he seldom is seen near water and rarely wades or swims. Like a plover, too, he runs swiftly and stops suddenly. Though friendly and unquarrelsome and congregating at some seasons in family and neighborhood groups, he is not truly gregarious like most of our sandpipers.

Harry Smith called the bird to our attention. He and Philip DuMont had noticed its frequent appearance on the prairies just west of Evanston, and Mr. Smith said that although it seems a common bird to us here, its concentration in this area is an unusual circumstance.

My husband and I watched the plovers in a subdivision west of Evanston, south of Main st. and east of Crawford ave., when they first appeared about the middle of April, 1948, until we lost track of them early in July.

It was fun seeing for ourselves what hitherto we had only read about, the behavior pattern of "one of the most picturesque of our birds." Although plovers were seen in several places around Chicago last season, we confined our search to the streets of this one subdivision and found them concentrated in only one place a few blocks square.

Quack grass and timothy were the dominant plants in the area, with a

lot of red top, brome grass, Kentucky and Canada bluegrass. There were a few spots of billowing cord grass. Big bluestem, fruiting late in the season, made a background for blazing star. The trees were scattered cottonwoods, hedges of willows, and a few young elms. Dog bane (Indian hemp) and Canada thistle grew in profusion in one field; there were Bouncing Bet, black-eyed Susan, red clover, sweet clover, curly burdock, prairie dock, common milkweed, yarrow, wild roses, lots of purple asters, and goldenrod.

With the progress of the breeding season, the plovers changed their location within the area, according to their needs and the variation in the cover. On arrival they settled in grass about 4 inches high, with scattered tussocks. Here, too, was the greatest criss-cross of telephone poles. Chosen nesting sites appeared to be deep, lush stands of quack grass near trees or shrubs. The post-nesting period brought a short trek to feeding grounds where the grass was shorter and more sparse, but with deeper cover available.

Among other birds found here were the short-eared owl, two pairs of pheasants, bobolinks and numerous meadowlarks, song sparrows, robins, starlings, Brewer's blackbirds, and two pairs of sparrow hawks. One sparrow hawk nest was in the hollow limb of a cottonwood tree near the feeding grounds.

Our own notes taken on the spot and mostly descriptive, follow, just about as we set them down:

April 17, 1948: Late afternoon. For the first time this season we saw upland plover, four of them in the grassy field of a subdivision west of Evanston. There was more or less squabbling.

April 26. 6-8 p.m. Clear and sunny. At first we sighted just one plover feeding alone in a block. Later another joined it; they fed for a while, then flew to another block. The female seemed lighter in color. However, it is said there is no distinction in color between the sexes. We guessed at sex by behavior.

Every time she changed location, he flew to the top of a telephone pole and whistled, then remained for a while as if on watch. When she was settled, he flew down and joined her. Or he flew from one tussock to another and whistled; or from pole to pole in a deep, scalloped flight, always raising his wings and whistling on alighting. Sometimes they flew up from the ground together, but he went over the wires and alighted on a pole, while she just cleared the wires in an arc of flight underneath and then settled back in the grass. She never whistled, but as he alighted he raised his wings and bent his knees as if he were pumping out the sound with his head and neck. We suppose this is courtship flight, and he was also advertising his territory. It was a beautiful sight and the whistle is wonderful.

May 1. Sunny, cool, east wind. Grass about 4 inches high. No plovers visible at 3:30 p.m. We left and returned at 5 p.m. Two plovers were feeding in the field. We first glimpsed the male on a tussock, then the female nearby. When we drove to within 25 feet of them they were watchful of the car at first, then relaxed and paid no attention. Grass was giving

better cover now and birds were less nervous. The car makes a good blind.

A second pair appeared on the north side of the road. The first pair walked over to the edge of the sidewalk looking across at them and they stood for a while as if visiting, but neither pair crossed the road.

The male of the first pair flew to a nearby tussock and whistled. She remained behind and he flew back to her twice, coaxingly, then settled on the tussock. She worked over to him, feeding. He inflated his throat, and vibrating his bill rapidly, uttered a very low, soft twitter, and they mated. This flying back and forth and twittering is said to be characteristic mating behavior.

They continued feeding for some time, keeping about six feet apart. Then he flew to a tussock, she crouched in the grass, and they rested and preened. Later they moved out of sight, feeding.

Another plover flew into the far side of the block. Driving there we found a pair on the sidewalk. The third plover flew to a pole and whistled, then flew down near the pair. The male on the sidewalk went to meet him



Courtesy of Chicago Academy of Sciences

Upland Plover at Nest

belligerently, then suddenly changed his mind and herded the female rapidly away. The lone male flew back to the pole and whistled. When the other pair was some distance away, he flew down to the same spot in the grass. A female not visible before rose to meet him and he uttered a faint twitter to greet her. They walked away, feeding. We looked for a nest where the female had risen, but found none. This was the nearest thing to a real squabble we saw during the whole season and there was no further trouble of any kind. Just a little territorial argument?

There were no more flying and whistling and again the birds disappeared at sundown. Apparently they congregated here about sunset to bed down for the night. As well as we could count them, we had seen two pairs in one block, two or three pairs in an adjoining block, and later another pair in the block to the southeast, making about 10 to 12 plovers in this area. We cruised over a distance of a square mile or more in this region, repeatedly, but found plovers nowhere else, though occasionally they flew in and out from afar.

Whistling and flying about has decreased markedly since the preceding week, as nesting time nears.

May 6. Cool and cloudy. One plover in the north block. A pair in the south block feeding, about six feet apart as usual. The male stopped from time to time, climbed a tussock and looked about. Only once he flew to a pole and whistled. A plover from some distant territory flew to a street marker and whistled, waited awhile, then flew back out of sight. The pair came out on the road and walked leisurely past the car, one on either side. Finally they flew back to the center of the road and we went home.

May 6 to 20. We lost sight of the plovers although we made repeated trips at different times of the day. On May 20 a friend saw a pair here flying and whistling.

May 30. 6-7 a.m. No plovers were in sight at the usual place. We left and returned about 7:30. Driving about four blocks north and six blocks east of early plover territory, we saw a plover on the street marker and heard chirping in the long grass near a clump of willows bordering a cultivated field. Getting out of the car we walked carefully through the grass. A pair of plovers flew about us in circles. Sometimes one went back to the deep grass chirping; sometimes it alighted farther away. Now they gave the short whistle a-wing, drawing back the head, raising it slightly and making a gurgling series of notes. It seems to be a louder version or development of the courtship twitter we heard earlier. This was the first day we heard the short whistle, though others say that both the long and short whistle are heard throughout the season.

The birds were fearless now. They flew close or ran down the walk near us, not especially agitated but looking as if they did not know quite what to do about us. We guessed the young had just hatched.

Leaving them in peace, we drove three blocks west where a plover stood on a telephone pole. When we got out of the car, another bird ran up and down along the curb, hunched over, excitedly giving sharp, warning chirps. Probably chicks were in the grass in the parkway and the mother was warning them not to cross the street.

Another plover whistled to the south of us and we went to pre-nesting territory. We walked into deep grass and stood near a tree at the foot of a telephone pole. A plover flew to the pole and whistled and another chirped in the lush grass. We found an empty nest a few feet away, an opening in the grass slanting toward the east with a cup hollowed at the bottom and grasses arched overhead.

May 31. 7:30 a.m. This was a red letter day. We met friends and went to the plover area by separate routes. At the first nesting site discovered the day before, the plovers were down the field on poles a block away. At another nesting site, no plovers could be seen or heard.

At the third site also the birds were gone, but adults appeared on poles a block away. We drove up to the intersection there, where our friends were gazing intently through their binoculars at something on the ground. Here was luck! A pair of plovers and three or four young (none of us was just sure of the count) were crossing the street about a quarter of a block

away. The parents, fearless, stood guard on the far side of the street and waited for the chicks to cross. We could have picked up the little ones and banded them but we were too surprised to do more than stand and stare. They appeared to be less than the size of our thumbs with fawn-colored down, spotted with black, and pinkish, transparent legs, long and weak-looking. The cement road was too much for one baby and he walked across on his "elbows."

The old birds held their ground, standing tall on the curb till all the young had scrambled up, then walked slowly off and hid their little family in the grass.

June 6. We returned to the block where we had seen the young plovers. Two pairs, apparently with their young, were now sharing adjoining blocks as feeding grounds. Here rather sparse grass came about to the plovers' backs, interspersed with bunches of flowers and strips of deeper cover.

June 13. 6-7 p.m. A further concentration of plovers in the communal feeding ground. Five or six in a row on telephone poles. They flew off the poles and circled us when we entered the fields. Three young, about one-third grown, crossed the street. They must have been later nestlings than the ones we saw May 31, for according to growth charts plovers are almost full grown in two weeks.

There was now much whistling with both the long and short whistle, sometimes used separately, sometimes beginning with the short whistle and ending with the long. They had scolding notes and single warning chirps.

June 20. Two plovers on the poles. They circled us, alighted in deep grass, crouched down out of sight, then ran and rose far away.

June 27. Two plovers on the poles. Others heard in grass to the south. There was little whistling. Population seemed to be thinning out.

July 4 we were away. July 10 we returned and looked around from 6:30 to 8 a.m. There were no plovers in sight though we thought we heard two in the grass. Instead, a young sparrow hawk family occupied the wires where the plovers used to be.

We returned from time to time throughout the summer but found no further sign of the plovers and to our knowledge they were not seen by any of our very active friends around Chicago.

Comparing the above chronology with one of a study of upland plovers at Faville Grove Wildlife Area in southern Wisconsin, we find the two records about the same.



Bird Slides Available

The Society has purchased a set of colored bird slides which it will make available to any of our affiliated bird, nature, and garden clubs, scout and school groups, and similar organizations for bird study. The only charge is a small fee to cover packing and shipping costs. To arrange for use of the slides write to Miss Esther A. Craigmile, 315 N. LaGrange Road, LaGrange Park, Ill.

Loons Cry at Itasca

By ANNE DOUGLAS BAYLESS

MY HUSBAND, John, Mrs. Amy Baldwin, and I nearly jumped out of the car the night of last July 13. It was nearly 10 p.m. our time, but it was not yet quite dark, and we were turning into Itasca State Park, Minn., after a grueling one-day drive from Chicago.

From the thick evergreen forest along the road into the park, we heard the lovely song of a veery, welcoming us. It was the first time John and I had ever heard those beautiful notes, except on a record. The veery immediately became our favorite thrush, and we knew our trip was going to be a success.

With three days at our disposal, we had dashed to Minnesota to go on an Audubon Wildlife Tour of the park, the second year they were offered. They will be conducted again this year, starting around June 20, when the birds are nesting, and continuing through August. The tours will be all-day affairs and will take in more than we were able to see in the half-day trip of last year, according to present plans.

Itasca is an ideal setting for the tours, containing 32,000 acres and close to 1,000 lakes, large and small. It is situated in the northern half of Minnesota, 225 miles northwest of Minneapolis-St. Paul. One of its points of interest is the source of the Mississippi river, a mere trickle there that can be and is jumped over by most visitors.

Our trip there, requiring a 6:30 a.m. start, enabled us to build up a sizable bird list on the way. One happening of note was the sight of our first and only cardinal of the entire trip, after we were well north of St. Paul. We were told later that cardinals only recently have moved north of the Twin Cities, in extending their northward range, and that none has been seen in Itasca Park. We hadn't realized a cardinal was a find.

Once in the park, we checked into the hotel, Douglas Lodge, and were greeted by squeaking little brown bats chasing insects. We then walked down to the shore of Lake Itasca, the largest in the park and only a stone's throw away from the hotel. Right away we heard two barred owls hooting at each other! We tried to stay awake that night and listen for more, but were too sleepy.

We got up soon after dawn next day, but Mrs. Baldwin had preceded us and already found chickadees and warblers in the tall white pines around the lodge. Martins were skimming in and out of their house nearby. We went down to the lake again. It was covered with a chill, early morning mist, and we could see only a few feet as we stood on the dock. Then, out of the mist, came the cry of a loon, and another, and another. We clutched each other and held our breaths for a repeat performance, but in vain. The loons apparently were waking for the day and did not feel like crying in the sunshine, for though we saw many that day, we heard no more.

As the sun cleared away the mists we found the smaller trees bordering the lake full of movement, and identified Blackburnian, myrtle, black throated green, Tennessee, pine, and palm warblers, yellowthroats, pewees,

crested flycatchers, phoebes, a kingfisher, male and female scarlet tanagers, and several others. A loud "*teacher*" drew us down a small path, where we crept up on an oven-bird.

The mosquitoes, unfortunately, were bad, so we retired for breakfast. In front of the hotel was a junco with its young, which we would never have identified without the adult because of their brownish coloring.

The Audubon tour, a three-hour one by station wagon, started after breakfast under the direction of Kenneth Morrison, Minnesota Audubon representative, who couldn't have been nicer or more patient when we wanted to linger at a particular spot. Formerly editor of the Conservation Bulletin and public relations representative for the Minnesota Department of Conservation, he writes for the Audubon Magazine and other nature periodicals. He is well informed about Itasca.

Our time limit precluded visiting the entire park but we were shown highlights. Along one small, narrow trail almost impassable for the station wagon, Mr. Morrison tenderly moved back a leaf and showed us a hermit thrush sitting on her nest on the ground. She did not fly until the last minute and then only a short distance. Great blue herons stalked along the edges of the lakes, and dozens of loons flew past. We saw more loons flying than swimming. Mr. Morrison found us a Franklin's ground squirrel, new to us, and stopped the station wagon on the tiny bridge across the Mississippi to look at a young doe.

The white tailed deer grew so numerous in the park under protection, and ate so many seedlings, that the state had declared a short open season the two preceding years. The remaining deer remembered, and had grown much more wary. Formerly deer ate from visitors' hands, but we saw only the shy doe and a young fawn kept in an enclosure near the hotel.

In a dense virgin pine forest bordering the park road, Mr. Morrison showed us a pileated woodpecker's diggings, fresh ones that bored four or five inches into the trunk of a tree, about a foot from the ground. We did not have time to wait for the woodpecker to appear, however. In a small open meadow bordered by trees we saw a flock of pine siskins. Wood and hermit thrushes sang from the depths of the woods.

Mr. Morrison pointed out a stand of jack pine to us that he said was the best place to look for the Arctic three-toed woodpecker, so we resolved to go back. He also showed us several yellow-bellied sapsuckers, hummingbirds, hairy and downy woodpeckers, and other birds with which we are familiar at home. He had found a chipping sparrow's nest in a small pine, and nearby a robin's nest. We didn't quite approve of the robin's location. The nest was under the eaves of a small building marked "Men."

We learned, for the moment, to identify the many evergreens of the park, and to tell birch from aspen. Our tour ran overtime, we were so interested.

After lunch, when another tour started out, we wandered by ourselves, and made a trip back to the jack pine grove. Suddenly a bird whizzed by and lit on the trunk of a tree. I could see that its back was all black. The Arctic three-toed! While I tried to get some words out to call the

others, they too found one, probably my bird's mate. The pair flew from tree to tree but kept in our sight for some time, and we got excellent looks at the yellow head patch on the male.

We also took a boat ride on Lake Itasca, which has three long fingers. We soon lost count of the great blue herons, black terns, and swallows of various kinds we saw. Above us, four ospreys circled. After the boat ride we stayed out until dark, and missed supper entirely. In the evening, we had colored bird movies, and fell into bed exhausted.

The next day we had to get an early start but we took a last look around, and saw many of the warblers and others again. We were speeding home south of the park at 75 miles an hour when I caught sight of a hawk. John stopped and backed up and we found two red-tailed hawks sitting on fence posts, right along the road. We had not fully regained speed when we had to stop again to watch a goshawk fly over us.

Our mileage for the entire jaunt was 1,492 miles, and we saw a total of 79 varieties of birds in the three days. We do not recommend it for a three-day trip, but for us it was that or nothing. We think it would take at least a week to explore that gorgeous country. Then it would be possible to search more thoroughly for some birds we missed seeing, including the Canada jay, ruffed grouse, olive sided flycatcher, Hudsonian chickadee, and pileated woodpecker. All are there, but we lacked the time to find them.



Birding Bughouse Square

By ISOBEL S. MILLAR and ALICE E. HECK

NOW THAT SPRING is presumably just around the next windy corner, it may be of interest to the Chicago members of the Society to know that populous Washington Square, better known by its alias, Bughouse Square, at 900 N. Clark st., affords a convenient and delightful opportunity to see many of our North American birds as they pass through our city in migration.

A small group of us who work in the vicinity of this small park became interested in its possibilities for a migration census. The park was visited daily by one or more of our members during most of the 1948 season and produced gratifying results. That it was a pleasurable lunch hour pastime goes without saying, and to add that as the migration reached its peak it became a positive distraction from good work habits would be only a nod in the direction of the truth.

The first robins of the season arrived March 28, when we also saw a lone brown creeper. On April 2 a herring gull was observed flying over the park and the next day there was a white-breasted nuthatch hard at work. On April 4 two fox sparrows, a song sparrow, four yellow-bellied sapsuckers, and a downy woodpecker were observed quite at home in the heart of the city. A grackle held undisputed sway among the unwashed house sparrows, starlings, and rock doves on the 8th. He was succeeded by a flicker and a robin April 12, and by the 15th more robins, fox sparrows, and grackles were there.

A junco and a hermit thrush appeared the 16th. Five white-throated sparrows arrived the 19th and this species was present in greater or lesser numbers during the rest of the spring and in the fall. A Savannah sparrow entertained us charmingly on this date also. On the morning of the 20th two of our members saw a Henslow's sparrow, but a careful check at noon failed to discover him to the writers. A hairy woodpecker also paid a flying morning visit. At noon we were able to add to the list a ruby crowned

WASHINGTON SQUARE 3 YEAR CENSUS

	Number seen				Number seen		
	1946	1947	1948		1946	1947	1948
Sparrow hawk	—	—	1	Cape May warbler.....	—	—	1
Herring gull	—	1	3	Black-throated blue			
Mourning dove	—	—	1	warbler	—	—	1
Yellow-bill cuckoo	1	—	1	Myrtle warbler	—	1	17
Black-bill cuckoo	1	1	2	Black-throated green			
Nighthawk	—	—	2	warbler	—	—	3
Swift	—	1	3	Blackburnian warbler..	2	2	1
Hummingbird	—	—	1	Chestnut-sided			
Flicker	3	5	20	warbler	1	4	2
Red-head woodpecker....	1	3	8	Bay-breasted warbler ..	—	1	—
Sapsucker	3	20	31	Black-poll warbler.....	1	2	1
Hairy woodpecker	1	—	1	Palm warbler	1	1	10
Downy woodpecker	—	1	5	Oven-bird	1	10	8
Crested flycatcher	—	1	6	Northern water-thrush ..	—	—	1
Phoebe	2	—	—	Louisiana water-thrush ..	1	—	2
Yellow bellied flycatcher		1	—	Connecticut warbler.....	1	—	—
Least flycatcher	—	3	4	Mourning warbler.....	—	3	—
Wood pewee	—	3	10	Yellow-throat	1	17	1
Olive-side flycatcher....	—	2	—	Yellow breasted chat....	1	—	—
Blue jay	—	—	7	Wilson's warbler	—	1	—
White breasted nuthatch ..	—	—	1	Canada warbler	1	5	3
Red breasted nuthatch ..	1	1	—	Redstart	2	9	44
Brown creeper	1	5	11	Eastern meadowlark	—	1	—
Long bill marsh wren....	—	1	—	Baltimore oriole	1	1	3
Catbird	1	2	6	Bronzed grackle	1	2	25
Brown thrasher	1	4	3	Scarlet tanager	1	8	2
Robin	2	8	10	Cardinal	1	—	—
Wood thrush	—	—	8	Rose-breasted grosbeak ..	1	3	17
Hermit thrush	10	11	18	Purple finch	1	—	—
Olive-back thrush	1	10	18	Goldfinch	1	—	7
Gray-cheek thrush	1	4	12	Red-eyed towhee	1	6	6
Veery	1	19	5	Savannah sparrow	—	1	1
Bluebird	1	4	3	Henslow's sparrow	—	1	1
Golden-crown kinglet ..	1	8	8	Baird's sparrow	—	1	—
Ruby-crown kinglet.....	3	3	17	Slate-colored junco	6	5	7
Cedar waxwing	—	—	3	Chipping sparrow	1	3	1
Yellow throated vireo....	—	—	1	Clay-colored sparrow....	—	—	1
Blue-headed vireo.....	—	—	2	Field sparrow	3	3	—
Red-eyed vireo.....	—	6	2	Harris's sparrow	—	—	1
Philadelphia vireo	—	1	—	White-crown sparrow ..	1	15	17
Black and white				White-throat sparrow ..	7	32	126
warbler	1	4	8	Fox sparrow	1	4	16
Prothonotary warbler ..	—	1	—	Lincoln's sparrow	1	1	—
Tennessee warbler	—	1	—	Swamp sparrow	1	6	—
Orange-crowned				Song sparrow	1	6	1
warbler	—	—	1				
Nashville warbler	1	—	2	*Total species	53	65	72
Parula warbler.....	—	1	—	Individuals	82	298	582
Yellow warbler	1	—	3	*Includes uncounted rock doves, star-			
Magnolia warbler	—	7	7	lings, and English sparrows.			

kinglet and a Myrtle warbler. The last 10 days of April gave us a blue jay, a red headed woodpecker, and an olive-backed thrush.

As we tore April from the calendar and turned the page of our bird notebook we were aware of a faint but unmistakable sense of exhilaration at the prospect of what lay before us in the next four or five weeks. May,

however, was ushered in by a lone and very self-conscious palm warbler flirting around the park making bows in all directions. We felt distinctly let down as we turned away, but assured ourselves that tomorrow was another day. It was two days later, though, that our blood pressure went up as we heard the twittering of goldfinches in the tops of the trees and saw those yellow and black bundles of joy flitting excitedly around in the early morning sun. By noon they had gone, but we were consoled by our first sight of a black and white warbler and a blue-headed vireo.

From this date on until the first week of June a nice variety of feathered migrants was seen each day. For the sake of brevity we mention only the newcomers. May 4 brought to the park two white-crowned sparrows, an oven-bird, and a wood thrush. May 7 came a bluebird, a brown thrasher, a veery, a Blackburnian warbler, a Baltimore oriole, and two rose-breasted grosbeaks. On the 10th the red-eyed towhee, catbird, black-throated green warbler, and grey-cheeked thrush arrived. The Nashville warbler and northern water thrush made their appearance the 12th and were followed next day by a mourning dove, a yellow-throat, and a chipping sparrow. May 19 the scarlet tanager finally arrived and brought with him, new for our list, a redstart, an orange-crowned warbler, and a female black-throated blue warbler.

These brought our list to 50, just one ahead of the number for the same date in 1947. The weather about this time was wet and we felt we missed some of the migration because of difficulties of observation and the brief stops of the birds. However, from the 20th to the 24th we added a Cape May warbler, a black-poll, a yellow warbler, a chestnut-sided warbler, a least flycatcher, a clay-colored sparrow, three cedar waxwings, and a crested flycatcher. A nighthawk and three chimney swifts were observed over the park the 26th and 27th, respectively.

June additions to our list were the wood pewee on the second, the Canada warbler the ninth, and the red-eyed vireo the 11th. These brought our total to 63 species for the spring, a figure just two less than our 1947 record.

Until this year we had not been much impressed with the idea of taking the fall migration, but two of us decided to do it and it turned out to be just as interesting as the spring project, though a bit more difficult. Besides the fun of seeing our friends all over again, and in their "new fall suits," we had the satisfaction of adding nine species to our year's list. Among the abundance that we saw, those that were new for the year were the Magnolia warbler Aug. 30, the black-billed cuckoo Sept. 7, two Louisiana water thrushes and a yellow-billed cuckoo the 13th, a hummingbird the 22nd, and a yellow-throated vireo the 23rd. April 28 a sparrow hawk really surprised us as he sat preening his feathers atop the highest tree in the square. Oct. 4 started an influx of golden crowned kinglets, and the 11th we delightfully discovered a Harris's sparrow.

The tabulation on page 9 summarizes our three years of birding the block square park. Covering the fall migration more thoroughly in 1948 accounts for several increases in number of individuals that year.

Christmas Census — 1948

AGAIN WE PRESENT Christmas season bird census reports. And again, the reports received are concentrated largely in the Chicago area. *The Bulletin* is mailed to many members in other parts of the state, and we hope they enjoy reading it, but they could help us make it more interesting, both to them and to those of us who do live in or near Chicago, by reporting to us on birding activities in the broad prairies, river bottoms and woodlands, or in their own backyards, south and west of Joliet.

The Morton Arboretum is covered by four separate reports. To those who know it and the almost unbelievable variety of trees and shrubs growing in its 800 acres, such emphasis on this Mecca of year-round birding will not seem excessive. Any unusual land-bird that shows up in northern Illinois is likely to pause at the Arboretum. The spotted towhee, the cross-bills (white-winged reported on one census and red crossbills were seen a few weeks earlier), the saw-whet owl which wintered there but was not recorded on the census reports, are but a few of the less generally known birds in Illinois which have appeared there in recent years.

Karl Bartel, commenting on the unusual finds at Waukegan, reports, "The ivory gull was seen by all nine of the group in flight, but the positive identification was made by four of the group when the bird was perched on a breakwater about 400 feet away, where the black feet and legs were seen. The kittiwake was seen at close range by all nine of the group. The glaucous gull was seen by five members."

The reports follow:

Waukegan, Lake county; Lake Michigan, harbor, surrounding woods and fields, pines and lake shore north of Waukegan, open water at Public Service plant; Jan. 1; 9:30 a.m. to 4 p.m.; cloudy; temperature 18° to 25°; north-east wind; ground bare; lake and harbor open, but with some ice cakes; 25 miles (22 by auto, 3 on foot). Mallard, 8; green-winged teal, 1; ring-necked duck, 1; canvasback, 4; greater scaup, 10; lesser scaup, 200; golden-eye, 60; bufflehead, 2; old squaw, 70; ruddy duck, 1; hooded merganser, 1; American merganser, 30; red-breasted merganser, 1,500; marsh hawk, 1; sparrow hawk, 1; pheasant, 3; coot, 1; killdeer, 1; glaucous gull, 1; herring gull, 400; ring-billed gull, 30; Bonaparte's gull, 80; ivory gull, 1; Atlantic kittiwake, 1; owl (barred or short-eared), 1; blue jay, 7; crow, 6; starling, 11; English sparrow, 10; junco, 1; tree sparrow, 8; song sparrow, 2; total, 32 species, 2,404 individuals.—Howard T. Dean, Karl E. Bartel, Mrs. Amy G. Baldwin, Carlyle Morris, Miss Millicent Stebbins, Dr. J. O. Young, Miss Leona Draheim, Mr. and Mrs. Albert Campbell.

Orland Park, Cook county; Orland Wildlife Preserve; Dec. 24; lake frozen except for a hole 25 by 100 feet; partly cloudy; north wind; temperature 32°; noon to 3:30 p.m.; 6 miles (5 by auto, 1 on foot). Canada goose, 20; mallard, 3; black duck, 8; golden-eye, 3; red-shouldered hawk, 3; pheasant, 1; herring gull, 2; hairy woodpecker, 1; downy woodpecker, 1; crow, 3; chickadee, 1; starling, 11; English sparrow, 3; car-

dinal, 1; tree sparrow, 36; song sparrow, 1; total, 16 species, 98 individuals.—Karl E. Bartel.

Orland Park, Cook county; Orland Wildlife Preserve, west end by farmhouse; Jan. 1; 3 p.m. to 3:30 p.m.; sunny, clear; temperature 30°; strong northeast wind; lake frozen. Red-shouldered hawk, 2; marsh hawk, 1; downy woodpecker, 1; tree sparrow, 10; total, 4 species, 14 individuals.—Alfred H. Reuss.

Palos Park, Cook county; vicinity of five bird-banding stations; Jan. 2; 8:30 a.m. to 5 p.m.; cloudy, sun out dimly at times; light cover of snow on ground; roads icy in spots; temperature 30° to 36°. Hawk(?), 1; hairy woodpecker, 5; downy woodpecker, 20; red-bellied woodpecker, 3; crow, 50; chickadee, 56; tufted titmouse, 2; white-breasted nuthatch, 3; brown creeper, 2; cardinal, 5; purple finch, 4; goldfinch, 1; junco, 18; tree sparrow, 40; robin (seen by Mrs. McQuarrie up to Jan. 1); total, 15 species, 201 individuals.—Alfred H. Reuss.

Joliet, Will county; along Des Plaines river Tow Path 14 miles southwest of Joliet to source of Illinois river, and in Pilcher Park Arboretum; Jan. 1; 7:15 a.m. to 4:30 p.m.; clear; temperature 8° to 45° to 22°; wind northwest to north, 1 to 3 miles an hour; ground covered with 1 to 3 inches of snow; ponds and backwaters frozen, river channel open; 61 miles (54 by auto, 7 on foot). Mallard, 85; black duck, 26; baldpate, 2; pintail, 706; canvasback, 1; lesser scaup, 63; golden-eye, 20; bufflehead, 1; old squaw, 5; ruddy duck, 2; hooded merganser, 2; redtailed hawk, 5; red-shouldered hawk, 6; marsh hawk, 1; pheasant, 1; herring gull, 6; ring-billed gull, 2; kingfisher, 1; flicker, 2; hairy woodpecker, 1; downy woodpecker, 11; blue jay, 5; crow, 50; chickadee, 22; tufted titmouse, 12; white-breasted nuthatch, 2; brown creeper, 3; starling, 52; English sparrow, 50; cardinal, 8; purple finch, 28; goldfinch, 17; junco, 19; tree sparrow, 74; song sparrow, 11; total, 35 species, 1,302 individuals (plus estimated 2,000 crows returning to roost).—Joliet Audubon Society, Dr. and Mrs. George H. Woodruff, Dr. Gayle Hufford, Gale Hufford (a.m.), Hilda McIntosh, William Hughes, Dr. J. H. Edgecombe (p.m.), Mrs. E. Durbin Collins.

Blue Island, Cook county; in the vicinity of Oak Hill banding station and fields south and east; Dec. 22 to Dec. 31; snow on ground most of the time; temperature ranging from 7° to 45° (listing largest number seen in any one day); Red-shouldered hawk, 2; sparrow hawk, 2; pheasant, 4; herring gull, 60; mourning dove, 2; screech owl, 1; hairy woodpecker, 1; downy woodpecker, 6; blue jay, 3; crow, 7; chickadee, 3; starling, 400+; English sparrow, 100+; cardinal, 11; goldfinch, 4; junco, 35; tree sparrow, 12; song sparrow, 3; total, 19 species, 657+ individuals. (Brown thrasher seen Dec. 17).—Karl E. Bartel.

Chicago, Cook county; Belmont harbor; Dec. 27; harbor mostly open. Old squaw, 2; mallard, 43; golden-eye, 265; red-breasted merganser, 21; American merganser, 5; herring gull, 12; ring-billed gull, 16; total, 7 species, 364 individuals.—G. B. Schenong.

Winamac, Ind.; Jasper-Pulaski State Game Preserve and back roads to and from Winamac; Dec. 29; 10 a.m. to 2:30 p.m.; ground bare; west wind

changing to north, 10 miles an hour; temperature 32° to 35°; light rain changing to snow; lake partly frozen; 20 miles (18 by auto, 2 on foot). Horned grebe, 1; great blue heron, 1; Canada goose, 1,000; mallard, 35; black duck, 10; golden-eye, 12; American merganser, 3; marsh hawk, 1; golden eagle, 1; quail, 24; pheasant, 9; herring gull, 3; mourning dove, 1; flicker, 1; downy woodpecker, 4; blue jay, 13; crow, 18; chickadee, 1; white-breasted nuthatch, 2; starling, 9; English sparrow, 10; red-winged blackbird, 1; cardinal, 3; goldfinch, 20; song sparrow, 2; tree sparrow, 52; junco, 50; Lapland longspur, 35; total, 28 species, 1,322 individuals.—Mr. and Mrs. John Bayless, Mrs. E. C. Gorrell.

Lisle, DuPage county; Morton Arboretum; Dec. 19 (not in census period but sent in for comparison); 9:15 a.m. to 4:30 p.m.; ground bare; cloudy, west wind; temperature 31°; 15 miles (10 by auto, 5 on foot). Red-tailed hawk, 3; red-shouldered hawk, 1; pheasant, 1; mourning dove, 4; long-eared owl, 3; short-eared owl, 4; yellow-bellied sapsucker, 1; hairy woodpecker, 3; downy woodpecker, 8; horned lark, 2; blue jay, 5; crow, 55; chickadee, 10; tufted titmouse, 4; white-breasted nuthatch, 2; red-breasted nuthatch, 2; brown creeper, 1; golden-crowned kinglet, 3; starling, 20; myrtle warbler, 1; palm warbler, 1; English sparrow, 4; eastern meadow-lark, 8; red-winged blackbird, 2; rusty blackbird, 8; cardinal, 22; purple finch, 2; pine siskin, 30; goldfinch, 2; white-winged crossbill, 3; spotted towhee, 1; junco, 50; tree sparrow, 6; song sparrow, 1; Lapland longspur, 50; snow bunting, 15; total, 36 species, 356 individuals.—20 members of the Chicago Ornithological Society, Karl E. Bartel, Field Chairman.

Lisle, DuPage county; Morton Arboretum; Dec. 28; 9:30 a.m. to 2 p.m.; ground bare; northeast wind; temperature 32°; rain most of the time; 7 miles (2 on foot, 5 by auto). Sparrow hawk, 1; pheasant, 1; hairy woodpecker, 1; downy woodpecker, 5; blue jay, 2; crow, 65; chickadee, 5; tufted titmouse, 2; red-breasted nuthatch, 1; ruby-crowned kinglet, 1; starling, 10; English sparrow, 10; red-winged blackbird, 2; rusty blackbird, 8; cardinal, 22; spotted towhee, 1; junco, 9; tree sparrow, 2; song sparrow, 2; total, 19 species, 150 individuals.—Karl E. Bartel.

Lisle, DuPage county; Morton Arboretum; Dec. 31; cold; wind 5 miles an hour. Cooper's hawk, 1; pheasant, 1; flicker, 1; yellow-bellied sapsucker, 2; hairy woodpecker, 1; downy woodpecker, 1; blue jay, 3; crow, many; chickadee, 5; tufted titmouse, 4; white-breasted nuthatch, 2; red-breasted nuthatch, 2; golden-crowned kinglet, 2; starling, 10; English sparrow, many; cardinal, 12; pine siskin, 15; junco, 10; total, 18 species, 72+ individuals.—Benjamin Gault Bird Club, Mrs. William E. Dripps, Mrs. H. E. Davis, Mrs. W. E. Stofer.

Lisle, DuPage county; Morton Arboretum; Jan. 2; 9:30 a.m. to 4 p.m.; ground bare; partly cloudy; northwest wind; temperature 32°; 12 miles (10 by auto, 2 on foot). Red-tailed hawk, 1; Cooper's hawk, 1; sparrow hawk, 2; pheasant, 2; mourning dove, 3; long-eared owl, 1; red-bellied woodpecker, 1; yellow-bellied sapsucker, 1; hairy woodpecker, 1; downy woodpecker, 7; blue jay, 3; crow, 65; chickadee, 9; tufted titmouse, 1; white-breasted nuthatch, 1; red-breasted nuthatch, 1; starling, 6; English

sparrow, 5; red-winged blackbird, 2; cardinal, 22; pine siskin, 26; goldfinch, 4; white-winged crossbill, 1; spotted towhee, 1; junco, 11; tree sparrow, 4; song sparrow, 1; total, 27 species, 183 individuals.—Karl E. Bartel, Mr. and Mrs. Albert Campbell, Miss Leona Draheim, Mrs. Amy Baldwin.



The Family *Icteridae**

By ANNA C. AMES

3. *Meadowlark*. Some species or subspecies of the meadowlark is found in every part of the United States. The meadowlark is a plump, brown-streaked bird with yellow underparts and a broad black crescent on the breast. (I once saw one with a dickcissel throat.) The western meadowlark is smaller and paler than the eastern, with a tendency to grayish-brown in color. Its black crescent is narrower than that of the eastern bird. The sexes are virtually alike in coloration, but the female is much smaller than the male.

In flight the meadowlarks' short tails display conspicuously their white outer feathers. It is the only one of the family, which includes blackbirds, bobolinks, and orioles, to have these banner marks. Upon alighting he flirts his tail vigorously once or twice, and shows the white markings again.

Like others of his family the meadowlark is a strong walker and largely a bird of the ground. He never flies very high and frequently may be seen in characteristic pose on a fence post delivering his cheery song with head thrown well back. Sometimes a bird may direct from the top of a telephone pole the movements of its young in the grass. The flight is leisurely, alternately fluttering and sailing.

The song, which varies with the season, is rather easy to imitate. In the winter its peculiar lisping, long and rather melancholy note is heard at short intervals. In the spring its clear and flute-like whistle rings out with varying intonation and accent, but is always sweet and inspiring to all who are weary of winter and snow. He is said to sing "Spring of the Year." In the autumn the song is more plaintive.

The western species has a richer, fuller song than the eastern, with, as Dr. Roberts has said, "a ringing quality not possessed by any forest encompassed bird." The Chicago area is fortunate in having both of these birds. The male birds sing more or less from March to November. Dr. Frank Chapman distinguishes thus between the call notes of eastern and western meadowlarks: "The call of the western meadowlark is a *chuck*, *chuck*, followed by a wooden, rolling *brrrrr*, wholly unlike the sharp *dzit* or *yert* and metallic twitter of the eastern."

These birds always nest on the ground. Sometimes they tunnel a foot or more under the grasses before they start the nest, which usually is arched over. Frequently the parents approach the nest by a short covered

*This study by Mrs. Ames, begun in the June, 1948, issue, will be continued in succeeding numbers until the entire family has been described.

path. They alight at some distance and walk quietly through the grasses. The four to six white eggs are speckled with brown and purplish. A second nesting is not uncommon. Usually the meadowlark is monogamous. "The young remain in the nest 10 days to two weeks, and then wander about in the grass until their wings are strong, attended by their solicitous parents." (Forbush).

In diet the meadowlark is chiefly beneficial. One-half of its intake is of harmful insects; 27 per cent is vegetable matter, either grass or weed seeds or waste grain, and the remainder useful beetles or neutral insects and spiders.

It is a hardy bird, not strictly migratory, as some birds remain in the northern states all winter.

The popularity of the western meadowlark is attested by the fact that it is the state bird of Oregon, Montana, Wyoming, Nebraska, and Kansas.



Let's Do It Again in 1949

The membership committee reports 155 new Illinois Audubon Society members for 1948. All except 10 of these joined during the membership campaign which started April 1 and closed Jan. 1. Fifty-four of the new affiliations were obtained by 36 members, whom the committee and Board of Directors wish to thank for their cooperation.

Mrs. Theron Wasson was the prize producer with seven new members, followed by Mrs. John Shawvan, Mrs. Amy Baldwin, and Miss Doris Plapp, with six each, and Mrs. Anna C. Ames, with four.

It is encouraging to see our new members already bringing their friends into the society and we got off to a flying start in 1949 with five new members the first week in January. If you are not one of those who started the membership snowball rolling in 1948, you can help keep up its momentum by interesting at least one of your friends in the I.A.S. this year.



Mr. Decker Retires

The Directors of the Illinois Audubon Society wish to thank Charles O. Decker for the many years he has actively participated in forwarding the aims of the Society. After 20 years as treasurer and 10 years as editor of *The Bulletin* he has decided to take a well-earned rest. These duties, voluntarily taken up without compensation other than the satisfaction of having done that which needed doing, now devolve on other members of the Society. Mr. Decker, as an Honorary Director, still will participate in decisions on policy and give his successors the benefit of his long experience. We need that help and the help of all members.

Illinois Bird Clubs

During the last year the Illinois Audubon Society has been trying to bring up to date its files on the numerous bird clubs in Illinois and other nature societies which include birds as one of their major interests. We are well aware that the following list is incomplete. One of the reasons for publishing it is the hope that any organizations not included will write us and that the clubs listed will report to us any changes in officers. Many garden clubs are included in the I.A.S. membership, and we also would like to hear from them.

We will be happy to send suggestions for organizing a bird club and cooperate with any group in initial organization work in any city that does not have a local club. In the following list the asterisks indicate that the clubs or one or more of their officers are I.A.S. members:

- *BELVIDERE BIRD CLUB, Mrs. Austin Schraudenback, president. Mrs. W. W. Shaw, secretary, R.F.D. #1, Belvidere.
- *CHAMPAIGN COUNTY AUDUBON CLUB, Dr. S. C. Kendeigh, president. Margarite Simmons, secretary, 1108 W. Nevada St., Urbana.
- *CHICAGO ORNITHOLOGICAL SOCIETY, William Beecher, president. H. A. Drechsler, secretary, 1008 Pleasant St., Oak Park.
- *CAHOKIA NATURE LEAGUE, F. J. Molique, president. J. W. Galbreath, executive secretary, 9100 Richfield Rd., East St. Louis.
- *EVANSTON BIRD CLUB, Mrs. Alice Weaver, president. Mrs. Walter S. Huxford, secretary, 3027 Thayer St., Evanston.
- ELGIN AUDUBON SOCIETY, Peter Jevne, president. Mrs. Janet Thomas, secretary, 161 Franklin Blvd., Elgin.
- *FREEPORT AUDUBON SOCIETY, Mrs. Ralph M. Burt, president. Mrs. William F. Freidag, secretary, 1210 W. Lincoln, Freeport.
- *BENJAMIN T. GAULT BIRD CLUB, Mrs. Frank W. Homan, president. Mrs. Al Chase, secretary, 503 Hillside Ave., Glen Ellyn.
- *NATURE CLUB OF HINSDALE, 128 N. Garfield Ave., Hinsdale.
- *JOLIET AUDUBON SOCIETY, Mrs. E. Durbin Collins, field chairman, 1053 W. Park Front, Joliet.
- PEORIA ACADEMY OF SCIENCES, Mrs. George Schoenbeck, president, 821 Heading Ave., Peoria.
- *NORTH CENTRAL ILLINOIS ORNITHOLOGICAL SOCIETY (Rockford), Don S. Prentice, president. Patricia Johnson, secretary, 402 Pennsylvania Ave., Loves Park.
- *TRI-CITY BIRD CLUB (Rock Island, Moline, and Davenport), James Hodges, president; Russell Siverly, secretary, Senior High School, Davenport, Ia.
- SPRINGFIELD NATURE LEAGUE, Arnold Kugler, president. Mrs. Elmer Evans, secretary, St. Nicholas Hotel, Springfield.

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Academy of Sciences, 2001 North Clark Street, Chicago 14, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

ACTIVE MEMBERS	\$2.00 annually
CONTRIBUTING MEMBERS.....	\$5.00 annually
SUSTAINING MEMBERS.....	\$25.00
LIFE MEMBERS	\$100.00

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T H E
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(ORGANIZED IN 1897)

For the Protection of Wild Birds

CHICAGO NATURAL HISTORY MUSEUM
ROOSEVELT ROAD and LAKE SHORE DRIVE
CHICAGO 5, ILLINOIS

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JOHN R. BAYLESS, *Editor*
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*The Society invites the membership of all bird
lovers and those desiring to support its activities*

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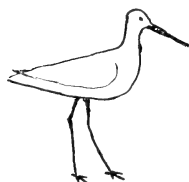
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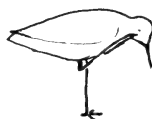
California Spring

By MARGARET MORSE NICE

THE LARGE size of many of the shorebirds on the Pacific coast comes as a surprise to an easterner; in the spring of 1948, I was continually wondering at the imposing marbled godwits and Hudsonian curlews and abundant willets, so amazing in flight. At Los Angeles, members of the Southwest Bird Study Club pointed out the sights to me. Curious surf scoters, elegant western grebes and absurd brown pelicans swam upon the waves; sanderlings and least and western sandpipers trotted along the beach, while western, glaucous-winged and ring-billed gulls stood on the pier. Very exciting to me were the avocets, such strange and beautiful birds with rosy



Godwit



Willet



Curlew



Avocet

breasts and head markings and upturned bills. It was a delight to see American and snowy egrets on the flats and to watch a California clapper rail hunt crustacea and swim across a pool. Black turnstones ran over the rocks, all black as they hunted, black and white when they flew.

Dr. Hildegard Howard showed me the remarkable fossils in the County museum — vultures and hawks and saber-toothed cats and giant sloths that had been trapped in La Brea tar pits. One afternoon she and her husband, Henry Wylde, drove me along the shore towards Malibu mountain; we turned into Topanga canyon in the Santa Monicas and called upon W. Lee Chambers, long time treasurer of the Cooper Club. At his feeding shelf under the live oaks there were crowds of chattering pine siskins and pretty house finches, Audubon's warblers, a Nuttall's woodpecker and a wren-tit, a brown towhee and Oregon juncos, and finally a Cooper's hawk that swooped unbidden (and unrewarded) to the feast.

In Pasadena the home of Mr. and Mrs. Harold Michener is a paradise for birds with great eucalyptus trees, deodar cedars and camphor trees. We watched American goldfinches, house finches and California jays at the feeding shelf, but the most conspicuous visitor and the most constant

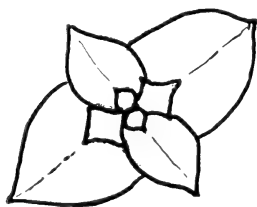
singer was the Chinese spotted dove. The Micheners have published distinguished studies on their banded birds, particularly house finches and mockingbirds.

One day we drove from my daughter's home near the Pacific ocean through the San Fernando valley to the Mojave desert. The Joshua trees were spectacular, but otherwise the desert was disappointing with hardly a cactus and most of the vegetation dull and dried except for some bronze-green creosote bushes. Birds were scarce. We returned through the San Gabriel mountains, finding rich chaparral, pines and spruce, and even snow that charmed my small grandsons.

For the Easter week-end we journeyed down into Mexico. The drive to San Diego was disappointing — too many oil wells, too many people, hills covered with grass instead of chaparral, few birds until we reached the Lt. Maxon Sanctuary where there were shovellers, ruddy ducks, coots and both egrets. San Diego's zoo is a gorgeous place, spectacularly situated, and excellently arranged and labelled under the direction of Mrs. Belle Benchly; large eucalyptus trees and a wide variety of palms grow up and down the canyons. To our surprise wild mourning doves allowed approach within a few feet, picking up peanuts thrown to them.

At Tijuana we crossed the border and drove some 70 miles into Lower California. The hills were covered with Shaw's agave, a few in beautiful bloom, with a scattering of fine Englemann's torch cacti; lupines and other wild flowers were abundant, while on rocky cliffs grew curious "hens and chickens" — *Dudleya brittoni*. The birds were mostly Brewer's blackbirds and redwings, with only two hawks on the 200 mile trip.

On Estero beach on Todos Santos bay just south of Ensenada we set up our tent and peacefully slept with frogs singing on one side, the surf on the other. Western and ring-billed gulls screamed early in the morning; two red-breasted mergansers swam in the bay and a raven flew over. A dozen American egrets fed in an inlet; like most of the birds we met in Mexico they were wary. I searched the salt marsh where I was fascinated by the dark red seedlings of halberd-leaved orache, as symmetrical as a medallion in an Old World cathedral. Here were green-backed goldfinches and a few migrant sparrows, but most abundant and interesting were Belding's sparrows that looked like a cross between song and Savannah sparrows. They were preparing to nest in the glasswort (*Salicornia*), displaying and singing their buzzy songs.



On the trip home I noted but one raptor, a sparrow hawk. It had been good to see empty land. I like to remember the purple-green mountains, the impressive agaves and torch cacti, the Pacific ocean — a country that is still somewhat wild and not cluttered up with people.

In early April I traveled north to Monterey county; the green-blue Pacific was magnificent, but the completely bare hills — result of drouth and over-grazing — in the Salinas valley were appalling. In Carmel the

Laidlaw Williams live between Fern and Wildcat canyons overlooking Point Lobos; their hillside is covered with Monterey pines, live oaks, toyon, blue ceanothus and manzanita. To the feeding shelf came a handsome pair of banded Oregon juncos and their fledgling, a pair of spotted towhees, and two splendid Steller's jays that had built in one of the pines over-shadowing the house. Chestnut-backed chickadees had seven eggs in a bird box; band-tailed pigeons and Allen's and rufous hummingbirds visited the fine madrone at the edge of the patio. Here at sea-level and at the same latitude as the northern boundary of North Carolina and Arkansas it is Transition Zone, thanks to the summer fogs that give the coast a cool climate the year around.

Point Lobos is a wonderful place of rocks and ocean and the only remaining native grove of Monterey cypress; its 336 acres have been made into a state park which the authorities are valiantly trying to keep undisturbed despite ever-increasing hordes of visitors. In the Monterey pines we saw western fly-catchers, California purple finches, Audubon's warblers and pygmy nuthatches; in a clump of hanging "moss" (really the lichen *Ramalina*) was a sleepy hoary bat. On the coast were the ancient, twisted cypresses, bright wild flowers, great waves and strange beasts on the outlying rocks — California sea lions that barked and Steller's sea lions that growled — and in the tide pools purple sea urchins, busy hermit crabs, sea anemones, star fish and abalones.

At Pacific Grove were many sea birds, most of them new to me. Mr. Williams took out his telescope and we watched eared grebes, black oystercatchers, black turnstones and surf birds, and I was shown the differences between the three cormorants — Brandt's, Baird's and Farallon. One day we drove south along the coast, seeing Pacific loons, pigeon guillemots, and most exciting of all, several of the exceedingly rare sea otters — great creatures contentedly floating on their backs among the kelp.

Of all the sights on the Seventeen-Mile drive that at Bird Rock was the climax. On the mainland was a dazzling carpet of wild flowers, on the ocean were fat harbor seals, Steller's sea lions and surf scoters, while on the Rock were placid brown pelicans and the busiest population of Brandt's cormorants; they brought up gobs of sea weed from the ocean, they puffed out their blue gular pouches, they vibrated their wings and tails in the astonishing display by which the males advertised the possession of a nest site.

At the mouth of the Carmel river we visited Mr. Williams' colony of Brewer's blackbirds which he has trapped and color-banded for six years. They nest in the end tufts of the Monterey pines and show marked faithfulness to mates and precise locality. The naturalists are trying to get this marshland as a nature reservation, partly to relieve visitor pressure on Point Lobos, partly because most marshlands in the region have been or are being destroyed. As elsewhere in California, the Monterey peninsula is being "developed." The unique pines are cut down, the exquisite manzanita and other undergrowth rooted out, the ground bulldozed flat, then alluvial soil brought in and exotics planted. Two of these — genista and

an acacia — escape and smother the native shrubbery that is left in the woods.

Through gorgeous wild country, past oak and chaparral covered hills, along the Carmel river with giant sycamores and maples, we drove to the Frances Simes Hastings Natural History Reservation in the Santa Lucia mountains where I was welcomed by Dr. and Mrs. Jean Linsdale. On this 1,600 acre reserve native plants and animals are protected impartially; in the 10 years of this regime the range has been gradually coming back to the original bunch grass, and ground squirrels that thrive on the over-grazed land have disappeared.

Dr. Linsdale follows with his students Agassiz's admonition, "Study nature, not books;" as the general semanticists say, he takes pains to keep distinct different levels of abstraction. He tells his helpers to lay aside all theories, find out exactly what the animal does, and record it so that others can use the record. With a great capacity for detail, with imagination and tireless energy, he and his co-workers have assembled in the museum remarkable collections of the plants, including seeds, molds, liverworts and lichens, and of the invertebrates found on the reserve; more than 100 experts throughout the country have identified much of this material. With daily records of weather and animals seen, with banding of birds and mammals, intensive watching of nests and of animal behavior an overwhelming amount of information is being collected.

A fine flock of yellow-billed magpies was starting to nest in the valley oaks around the house. From a window we watched a wildcat hunting mice; Dr. Linsdale said the black-tailed deer chase bobcats. One day as I was sketching flowers on the hillside I heard a rustling and out from a tangle came a little new fawn. It bleated, then walked with a slow, wobbly gait within a few feet of me; it lay down under a rose bush —



before it were baby blue eyes, cream cups and shooting star. A junco sang and valley quail gave their strange, loud calls.

At my sister's in Piedmont, a suburb of Oakland, we heard wren-tits and mourning doves, song sparrows and valley quail, but the constant singing came from two pairs of Nuttall's white-crowned sparrows that nested in the garden; the birds of one pair were fully adult, the other two were in immature plumage.

On April 25 Mrs. Junea Kelley showed us shorebirds near Alameda — incredible numbers of least and western sandpipers, plenty of marbled godwits and Hudsonian curlews, knots, semipalmated and black-bellied plover, and lovely avocets, as well as Caspian and Forster's terns. Sad to say, this shorebird paradise is to be drained for a housing project.

Different aspects of California wildlife were shown to us by Mrs. Enid Austin in Marin county just north of San Francisco. In Muir woods (a national monument) we walked under the ancient, mighty coast redwoods, *Sequoia sempervirens*; the sunshine filtering through their high crowns shone on their grey and brown bark and great burls, on splendid sword ferns and California polypody growing thick on moss-covered maples, on yellow violets, star flowers and redwood oxalys.* Western flycatchers called, creepers and winter wrens sang. We drove up Mount Tamalpais and walked around its summit, Mrs. Austin identifying for us the different shrubs in the chaparral as well as the fascinating wild flowers by the roadside. Much of the region is still wild and its beauty is not defiled by billboards, thanks to the Marin County Conservation Society.

A week at the Yosemite was the climax of the trip. On the afternoon of April 26 we started, and before long came to green grass, oaks and brilliantly green California buckeyes besides a few lovely madrones. Soon, however, we reached sadly over-grazed hills with only a suggestion of green upon them. In the San Joaquin valley were valley oaks, willows and cottonwoods, but mostly great orchards of grapes and almonds, walnuts, figs and peaches. There were many, many redwings, some western meadowlarks and Brewer's blackbirds; a turkey vulture and sparrow hawk were the only raptors on the 150 miles. At one town what should have been a fine view of the Coast ranges was largely hidden by an enormous billboard. Billboards also defaced the wild pasture country as we drove east.

Suddenly in the distance we saw the Sierra Nevada — John Muir's "Range of Light," — magnificent, covered with snow. The country became rolling, wild, inhabited only by white-faced cattle and a few ranchers whose houses were overshadowed by tall eucalyptus trees. We stopped for the night in the foot-hills among little blue oaks with tender new leaves. Early the next morning I walked out in a great pasture covered with filaree and small clovers, and while the eastern sky was aflame I watched western kingbirds chasing and darting at each other with loud cries and gorgeous Bullock's orioles in the oaks. By a little stream I saw my first digger pines and found their enormous cones, 10 inches long and six inches in diameter.

The Yosemite is far more magnificent than I had dreamed with its great snow-capped peaks, its marvellous waterfalls and its stately conifers. Steller's jays were noisy and bold; robins sang splendidly night and morning, Brewer's blackbirds called from the trees and black-headed grosbeaks gave their fine songs.

We explored the valley, but at this time only one of the high roads was open — that to the giant sequoias. We drove on the Wawana road to

*Visitors should procure W. L. Jepson's excellent pamphlet on "Trees, Shrubs and Flowers of the Redwood Region," sold for 10 cents by Save-the-Redwoods League, 250 Administration Bldg., Univ. California, Berkeley 4, California.

Chinquapin where we saw handsome red firs and rugged sugar pines, their upper branches loaded with long cones, but two feet of snow on the ground gave us no chance to find any fallen ones. New birds were a singing hermit warbler and a spectacular red-breasted sapsucker. The Big Trees were a magnificent sight — their mighty red trunks, with the red of the incense cedars and yellow-red of the ponderosa pines, the grey of white firs and the yellow-green staghorn moss on trunks and dead twigs — all against the deep snow. The Grizzly Giant, massive and scarred by lightning and fire, is estimated to be 3,800 years old.

The weather turned cold and rainy, so we sought the museum where we studied the tree and Indian exhibits and read in the library at John Muir's desk. The naturalists are doing fine educational work while they struggle



Half Dome and Mirror Lake

Photo by Ansel Adams

with multitudes of visitors and entirely inadequate appropriations; they put out excellent leaflets on the natural history of the park, that on the "Cone-bearing Trees" by James E. Cole being one of the best.

On the evening of the 29th the robins were silent; my sister looked out of the cabin and said, "It's snowing!" A large bear passed between us and the next cabin and what impressive tracks he left! About midnight we thought he was hitting the cabin to get at our cache of bacon and milk hung out of the highest window; it proved to be masses of snow and ice dropping from the ponderosa pines and incense cedars. Such buffets as our little house did receive!

In the morning the valley was magical — the pines and incense cedars all snow-covered as were the mountains against the blue sky. Clouds

partially veiled the cliffs, but where they parted, the mountain tops seemed to reach unmeasured heights. We drove past black oaks that wore a different splendor from the conifers to Mirror lake that reflected Half Dome in its snowy glory. We walked along the trail wondering at the bright staghorn moss on trunks and branches, at majestic white firs and Douglas firs and California laurel in bloom weighed down with snow — a scene of never-to-be-forgotten beauty. In the meadows Pacific tree frogs were loudly singing.

May 2nd there was quite a migration, but it was hard to see birds in the great conifers. In front of Government Center three band-tailed pigeons were eating flowers of the black oaks, a red-breasted nuthatch searched over an incense cedar, and gorgeous western tanagers sang. Mrs. D. E. McHenry, wife of the chief naturalist, and Mr. and Mrs. Fitzpatrick took us on a bird trip. At the Fitzpatricks' feeding shelf there was a rare visitor — a female blue grosbeak that dominated the larger female black-headed grosbeak. A Steller's jay mounted a ponderosa with building material. On the mountain-side we were shown an exquisite calliope hummingbird. Over Happy Isles we saw a golden eagle. At the old apple orchard our Yosemite friends were excited when I casually mentioned the presence of a loggerhead shrike, their third record since 1931. But what excited us visitors was a white-headed woodpecker, a most amazing creature. Mrs. McHenry showed us water ouzels at Cascades View; they dove into the water and came out again carrying long insects.

The next day we left, hoping to return again and again. At El Portal, just outside the park, we stopped to locate our 12th conifer, the curious knobcone pine; here we found a fairy land of wild flowers, new ones at every step, such brilliant, lovely things! Here we discovered a black-throated gray warbler building her nest in a canyon live oak; she came time and again with perfect disregard of her admirers. Her mate sang much like the black-throated green; it made me homesick to study a nest once more.

5725 Harper Avenue, Chicago 37, Illinois.



Some Like It Hot

THE UNSEASONABLE hot spell of May 4, 5 and 6, with temperatures above 90 each day, brought reports of some unusual birding experiences. One observer in Milwaukee in four hours identified 126 species, including 26 kinds of warblers, in a small park along the Milwaukee river. Other Milwaukee observers even exceeded this number in longer one-day periods. Birding in Chicago near the lake was only fair these days, but Alfred Reuss, a bander, found his traps in the Palos area southwest of Chicago jammed with white-throated sparrows, with 141 individuals one day. He previously had regarded 18 as a large catch for a day in May. A combination of high temperature and a falling barometer was suggested as the cause of the unusually large migration in some areas. Why the effect was not uniform over the entire affected area perhaps is one of those mysteries that make birding the fun it is. Birds still are where you find them.

Our New Quarters

DOING OUR bit to revive a fine old Chicago custom of reserving May 1 for Moving Day, the Illinois Audubon Society — a few days late but still in the first week of May — moved its headquarters from the Chicago Academy of Sciences in Lincoln park into the Chicago Natural History museum, at Roosevelt rd. and Lake Shore dr., where our directors' meetings have been held for several years. Space and other considerations prompted the move. Once we have figured out the floor plan of this immense structure and oriented ourselves in relation to the dinosaurs and the mummies, we expect to be quite happy in our new home, which abounds with ornithologists and ornithological displays ranging from the archaeopteryx thru the extinct passenger pigeon to the birds we know best today.

The change will affect members principally in that the Audubon Screen Tours presented each year by the Society will be given this fall and winter in the James Simpson theater in the museum. Of five scheduled lectures, two will be given Saturday afternoon, two Sunday afternoon, and one Monday evening. The schedule::

October 2, Afternoon.....	Karl H. Maslowski
November 28, Evening.....	George M. Link
January 7, Afternoon.....	George and Helen Hadley
February 18, Afternoon.....	George M. Sutton
April 16, Afternoon.....	Roger Tory Peterson

The change from evening to afternoon hours is being made experimentally to see whether attendance will be better. If you like or do not like the change, let us know. We wish to please the largest number possible and at the same time attract as many prospective new members as possible to the lectures, which will continue to be free to the public. Bring your friends and encourage them to join the Society. Our new quarters can accommodate many more persons than previously and we wish to fill every seat.

Capacity crowds of members and friends attended all the screen tours presented last season, which ended April 27 with a stirring conservation plea by Alexander Sprunt, Jr., who found that a large proportion of his audience here was made up of persons who had earlier enjoyed his incomparable leadership on bird tours of Bull's Island, off South Carolina, and the Lake Okeechobee region of Florida. Encouraging was the fact that this lecture, like most of the others, was well attended by boys and girls of high school age. We must make these young people welcome and encourage them to learn more of the joys of wildlife study and the value of sound conservation practices.

Mrs. Laurel Reynolds opened the lecture series last October with beautiful color motion pictures taken in her California garden — which must be only slightly smaller than Los Angeles county considering all she showed us. Her hummingbirds were delightful.

Allan D. Cruickshank demonstrated what can be found within an hour's drive of Times Square, New York City — a variety hard to believe unless

you have spent a day of intensive birding with some of our more active members within an hour's distance of Chicago's Loop.

The Paul Bunyan country of Minnesota was brought to us by Walter J. Breckenridge and Lake Erie's shores were portrayed by George H. Orians in beautiful color photography.

Subjects to be covered by next season's speakers will be outlined in pamphlets to be sent to members later in the summer, but a glance over the list of speakers assures us that the program will be as interesting as was our last.

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The Family *Icteridae**

By ANNA C. AMES

ORIOLES

OF THE 150 known species of the family *icteridae* 50 are orioles. The majority of the birds of this family are at home only in tropical South America, where their brilliant colors are emphasized by the always green foliage and the bright sunshine. The large oropendolas and caciques of South America build pensile nests three or four feet in length and attach them to the ends of branches of tall forest trees, often a dozen or more close together. The caciques are orioles that have the bases of their bills expanded into frontal shields.

The name oriole is from the Latin *aureolus*, meaning golden. Although our Baltimore oriole is one of the most brilliantly colored of our common birds, it is surpassed in amount and vividness of color by the golden oriole (family *oriolidae*) of Europe, which has an orange-colored head as well as a reddish-orange body. Ruskin has said that on the plumes of birds the gold of the cloud is put that cannot be gathered of any covetousness.

East of the Mississippi only two species of orioles are found, the flaming Baltimore and the more modest orchard oriole.

1. *Baltimore Oriole*. There is a story to the effect that when Lord Baltimore in 1628 was exploring the Chesapeake, weary and disheartened, he was cheered by the sight and the sound of the golden and black bird that bore his colors. From this incident the Baltimore oriole was named by Catesby in 1731.

Most bright colored birds dress in dark suits for the winter season, but the Baltimore after its post-nuptial moult looks much as it did before except that there are dark edges to its feathers which wear off to produce his spring brilliance. Occasionally, though seldom, the orange-red of the male is replaced by a vivid, intense blood red like that of the scarlet tanager. Whether this is "due to their greater age or exceptional vigor is not certain" (Roberts).

The orange of the Baltimore oriole is replaced in the female by a dull yellow, and the black by grayish-olive. Instead of the white wing markings

*This concludes a study by Mrs. Ames which started in the June, 1948, Bulletin.

of the male she has two white wing-bars. Some females are brighter than others and have a suggestion of the black hood of the male. The young resemble the female. The full orange and black plumage and yellow and black tail of the male are acquired before the first breeding season, but the bird retains its brown wings with white wing-bars until the first post-nuptial moult.

During the summer this oriole is found from southern Canada nearly to the Gulf of Mexico and west to the Rockies. It winters from southern Mexico through Central America to Colombia.

About the first of May in the north central states one may awaken to hear the clear flute-like whistle of the Baltimore oriole as it moves about in the treetops. There is much variation in song with the same and with different birds. Yet the quality of the voice is distinctively that of a Baltimore oriole in each case. "Certain individuals have notes peculiar to them alone which may serve to identify them" (Roberts). The male bird has a second song period in late August and early September. The females have a sprightly little warble of their own.

The orioles are sociable birds, often building in the trees that line our streets or even, not infrequently, in trees near houses. The Baltimores build a hanging, pouch-like nest with a constricted top at the end of a swaying branch. Apparently elm trees are preferred. Every spring for several years Baltimore orioles nested in an elm tree of my former home yard in Kansas. Probably they nest there still. The female does all the work of the nest building, though the male may sometimes bring materials. Horsehairs and weed fibers and string are woven in and out many times after the skeleton of the nest is finished.

"In California the Arizona hooded oriole weaves nests of the beautiful Spanish moss; but one occasionally uses the love vine or yellow dodder to construct a gaudy, pocket-like nest." Experiments have proved that our fire-bird will not use gay colors for the nests. Given a choice of strings and yarns the Baltimore takes the most somber ones with now and then a blue or purple strand but no yellow, red, or green. But the chief aim seems to be to make the nest inaccessible.

When the young birds arrive after an incubation period of about two weeks, the father aids in feeding them. Although Baltimore oriole nestlings are known as the cry-babies of the bird world they do not begin their almost ceaseless "tee-dee-dee, tee-dee-dee" at once. This cry is a sign that they are almost ready to leave the nest and have developed the food call which will enable their parents to find them later.

Baltimore orioles are not only a joy to the eye, but also they feed freely upon tent caterpillars and other hairy larvae which few birds will touch. The stomach contents of three of these birds shot in an Illinois orchard infested by canker forms consisted 40 per cent of these pests and 50 per cent of an injurious leaf chafer. The nestlings also are fed with canker worms. Prof. Beal (Biological Survey of United States Department of Agriculture) reported that caterpillars alone formed 34 per cent of the food of 113 specimens examined, while vegetable matter had been

eaten only to the extent of 16 per cent. In destroying hairy caterpillars the birds eat only a small portion taken from the inside, and so require a large number of the insects to satisfy their appetites. These orioles also destroy great numbers of the catalpa sphinx larvae, which when unmolested defoliate catalpa trees. They are among the most valuable of our insectivorous birds.

The Baltimore oriole enjoys green peas and is sometimes quite daring in taking them. Sometimes he troubles the grape grower. He is "fond of sweets. He has been seen to snip off the heads of white-headed or stingless bees and draw out the viscera through the ring-like opening, for the sake of the honey-sack. How did he know it was there?" (Belle Paxson Drury).

The poet-naturalist, Thompson, thus describes this oriole:

*You whisk wild splendors through the trees,
And send keen fervors down the wind;
You singe the jackets of the bees,
And trail an opal mist behind.*

*When flowery hints foreshadow the berry,
On spray of haw and tuft of briar,
Then, wandering incendiary,
You set the maple swamps afire.*

2. *Orchard Oriole*. The orchard oriole is smaller, less brilliantly colored, and less bold than the Baltimore, but it is perhaps even more attractive in its quieter beauty and its more melodious song. The males of each species have one white wing-bar and the females have two. The adult orchard oriole in his chestnut and black dress somewhat resembles a robin. The second-year breeding male is a greenish-yellow bird like the female, but usually has a black throat. (Occasionally a female of the Baltimore oriole has a black throat, but Baltimore orioles are always more orange-yellow than orchard orioles ever are.) Two of these birds had their nests in Wilmette in trees near the harbor in the summer of 1948. The female is largely greenish-yellow below and yellowish-olive above.

The orchard oriole breeds over the greater part of the eastern United States as far west as North Dakota and south to southern Mexico; it winters from southern Mexico to northern Colombia. It is much rarer than the Baltimore oriole. "It prefers open woodlands and isolated groves, such as tree claims on western prairies," says Roberts.

The rusty blackbird often lines its nest with bright green grass, but the basket-like nest of the orchard oriole is made almost exclusively of green grass blades. "The nest is hemispherical in shape, open at the top, and generally about four inches in breadth and three deep. The cavity has a depth and width of about two inches" (Baird). Wilson found a nest with a grass strand 13 inches long that had been woven in and out through the wall of the nest and pulled tight no less than 34 times. In a green tree the nest is inconspicuous at first and remains so to a considerable

extent, as it turns yellow as the leaves of the tree begin to dry and fade. The female builds the nest, but both parents care for the young.

Orchard orioles are sociable birds and as many as nine nests have been found near together. Most ornithological writers comment upon the surprising fact that the usually unfriendly kingbird makes no trouble for the orchard oriole, who may choose to nest in the same tree with him. The eggs are a bluish-white marked with irregular lines and streaks and a few dots of brown. The incubation period is about two weeks, and the young remain in the nest 10 days longer.

I once discovered an orchard oriole's nest that was placed on an overhanging branch not more than two feet above my head (the birds usually nest at from 10 to 40 feet from the ground). The young birds were preparing to leave the nest and were very active. At this stage of their growth they look like charming little canaries. Unlike Baltimore oriole babies, they make no pronounced outcry.

Unlike young mockingbirds, the young orioles have no "whisper" song and exercise no care not to strain their throats. The song is remarkable for its rapidity and harmony. The year old orchard orioles of Wilmette Harbor sang melodiously and long with a rich, smooth-flowing beauty. The birds sing until late August.

The diet of the orchard orioles is chiefly insects. They like plant lice, small caterpillars, flies and wasps found around blossoms. They are not often seen on the ground but they will sometimes visit strawberry beds for the fruit and they eat some of wild fruits. After the young leave the nest sometimes the entire family retires to cornfields to feed upon insect enemies of the corn.

3. *Western Orioles*. The orioles of the west and southwest are larger than those of the east and the females in most cases have grayish rather than greenish backs. Most of them winter in Mexico.

The large Audubon orioles (8 to 9¼ inches) are interesting in that they comprise the only species of orioles in North America in which the sexes are similar. The Audubon oriole is a yellow bird with black head, wings, and tail. It is the only oriole with a yellowish back. It does not range as far west as does the Scott oriole, but is resident in the lower Rio Grande valley of Texas.

In the west, from Canada south into Mexico, the Bullock's oriole takes the place of the Baltimore oriole of the east. The ranges of the two species overlap only from the foothills of the Rockies to central South Dakota, Nebraska, Kansas, and Texas. The Bullock's oriole spends the winter in Mexico. The male of this species is distinctive with his black crown, black line through the eye, black throat, large white wing-patches, and bright orange cheeks and under parts. The young male resembles his mother, but has a black throat. The female has a yellow throat but otherwise whitish underparts and a gray back. The song and call notes, the nest, and eggs are scarcely distinguishable from those of the Baltimore oriole. After the breeding season the bright feathers of these birds become edged with grayish or whitish which wears off as spring advances. "This masking of

the bright colors during the winter and brightening the plumage by feather wear occurs in all the species of orioles and blackbirds."

The hooded oriole of the southwest and of the lower Rio Grande valley is orange and black, with a black throat and an orange crown or hood. It is the only oriole with the top of the head orange. The female is similar to the female Bullock's oriole, but has entirely yellow underparts. The year-old male, like the juvenile male of the Bullock's oriole, resembles the female but has a black throat. The birds frequent the chaparral and cottonwoods of the southwest.

The lemon-yellow and black Scott oriole spends his spring and summer in the semi-arid regions of our southwest and winters in Mexico. He has a high, clear whistled song of considerable vivacity. His grayish-brown and yellow mate sings nearly as well as he but has not so loud or so prolonged a song.



Cullom's Winter Visitor

By JOHN BAYLESS

"THIS IS just the kind of crazy thing I swore I would never let birding do to me when I started peering through binoculars," I said to Mrs. Amy Baldwin as we sat in the car at Cullom, Ill., last Feb. 3 while Anne, my wife, skidded along an icy sidewalk to the postoffice to ask where Mrs. Irene Koerner lived.

We were there — watching a moderate snow storm turn into a sleet storm — as a result of a letter received by the *Chicago Tribune* from Mrs. Koerner reporting the presence of a Townsend's solitaire in Cullom, a town situated 90 miles southwest of Chicago. The letter was referred to Anne by the city editor and she and I soon were agreed that we couldn't pass up the possibility of the bird's really being a solitaire. Next day being our day off, we called Mrs. Baldwin that evening and invited her to go with us. As always, she leaped at a chance of an unusual bird.

Morning brought a light but steady snowfall, and we debated whether to call the trip off but decided to start. Near the south edge of Chicago the highways became icy in spots, but we continued south through Kankakee to Ashkum, then west on a state road covered with an unbroken layer of fresh snow to Cullom.

The postmaster directed us back to the east edge of town to Mrs. Koerner, who, after deciding we were harmless though slightly insane coming so far in the snow for such a purpose, directed us to the home of a Mrs. Kiley, on whose feeding shelf the bird had been disporting itself for five weeks. By the time we reached Mrs. Kiley's home the snow had changed to a brisk, peppery sleet. Dressed in our birding slacks, bulky jackets and caps, and shielding our binoculars held ready in case the bird should be awaiting us on the front porch, we advanced across the Kiley yard, knocked, and were admitted by probably the most bewildered woman that day in all of Illinois.

The sanity question again settled, Mrs. Kiley led us to her kitchen and pointed through the window at her bird, which was obligingly alighting at that moment on a grape arbor. We studied it, comparing it with the solitaire illustrations in Peterson's western guide and in *Birds of America*, and with the mockingbird, which the solitaire resembles in many ways.

We slipped out the side door from the back porch for a closer look, stalked it thru the shrubbery around the house, stood shivering in the lee of a lilac bush near the feeder, darted back into the kitchen for another look at the pictures, and continued such behavior for some 45 minutes in the dim light of the storm before finally concluding that we had a mocker whose shape was distorted by fluffing its feathers in the cold. Then we started the slippery drive back to Chicago. While stalking the mocker-solitaire we heard a meadowlark singing in the sleet!

On the way back Mrs. Baldwin took a better look at a large bird we had seen on a post about a quarter of a mile off the road on our way out and decided it was an eagle. We watched it a while and then it flew — sure enough, a bald eagle.

We were north of Harvey coming in on U. S. route 54 when Mrs. Baldwin again called a halt for what appeared to be a hawk. It had stopped sleeting and was lighter than earlier in the day, but would soon be dusk. We put our glasses on the bird and saw it was a short-eared owl, the first Anne and I had seen.

We got out of the car and started walking back for a better look when it flew off its perch and began soaring, wheeling, and almost looping on quick turns. Suddenly it was joined by another doing the same kind of maneuvers. We saw at once that it was a nuptial flight! The flight continued several minutes. Later they alighted on low stumps in a field about 100 yards from us.

During the flight I spotted a third owl in a tree some distance away. After the pair had alighted, the third owl, apparently a male, came winging toward them and the male at rest rose to meet him. The intruder already had a ragged wing but the two battled furiously in the air for some time before the ragged one flew disconsolately back to his tree with a larger tear in his wing than before. The female sat quietly on a stump, paying no attention to the battlers. It was getting too dark to see more and we came on home feeling well repaid by the performance of the owls for the disappointment in not seeing a Townsend's solitaire.



Society Leads Bird Walks

SEVERAL MEMBERS of the Illinois Audubon Society led bird walks in five Chicago parks last month in cooperation with the Chicago park district recreation department in a new nature program. Walks were conducted three successive Saturdays beginning May 7 in Columbus, Humboldt, Indian Boundary, Jackson, and Lincoln parks. The leaders were Pauline Esdale, Gwendolyn Smith, Abel Schwartz, Arthur Gronner, Craig O'Rear, and Doris Plapp.

Wildlife and DDT

The following statement issued recently by John H. Baker, president of the National Audubon Society, is based upon results of more than a year's investigation of the insecticide-wildlife problem, including research by various federal agencies:

Far too little attention has been paid to repeated warnings by the United States fish and wildlife service and the department of agriculture on the danger of employing certain new insecticides in heavy concentrations in outdoor areas. With the expanding use of such poisons, increasingly serious damage can be expected unless great care is taken in dusting and spraying. These new insecticides include DDT, DDD, TEPP, and chlorinated camphene.

These toxic agents in heavy applications not only kill birds and fish, but lead to heavy destruction of bees and other insects valued by farmers and fruit growers. Land fertility may also be affected. The problem is urgent. It concerns human welfare as well as wildlife.

Surveys and experiments conducted by the fish and wildlife service have demonstrated how and in what concentrations DDT may safely be used. Other organics have not yet been fully tested. Some of them are more deadly than DDT to warm blooded animals. Wildlife mortality has been cited by scores of observers after checking the results of local insecticide spraying and dusting. Such evidence confirms the hazards of drenching outdoor areas with the new insecticides.

Among specific examples of destruction of wildlife was a reduction of 50 per cent or more in the bird population in six days in a test plot in Texas, dusted with 4.36 pounds of DDT to the acre. A reduction of 65 per cent took place in six days among common bird species in a Maryland woodland tract, following aerial treatment with a similar amount. Quail fed on diets containing low percentages of various new insecticides did not begin to succumb until the eighth day. Deaths continued among them up to the 34th day of the experiment.

Heavy kills of fish and crabs occurred after aerial applications where as little as one-half pound of DDT to the acre of water was employed, the poison being fatal to aquatic life in much lower concentrations than to land animals.

Where lighter woodland applications of DDT than two pounds per acre have been used, little or no animal mortality has apparently resulted. Even in such cases, however, the destruction of all types of insects by this toxic agent has occasionally been followed by aphid or mite outbreaks resulting from loss of natural control by other insects.

The peril of the new insecticides to birds lies in the fact that these organic poisons act slowly. Some of them have residual, cumulative effects. Birds usually devour only living insects, but poisoned and poison-laden insects which have not yet succumbed can provide a fatal diet for adult birds and their young. A nest brought to the Audubon Society's offices

contained four dead nestling robins, surrounded by dead carrion beetles which had in turn been poisoned.

Adult birds may fly many miles from a sprayed area before they are seized by the convulsions which precede death from DDT. It should also be borne in mind that insectivorous birds avoid or abandon any territory in which insect life has been practically exterminated. This explains the disappearance of birds from many areas subjected to repeated heavy spraying. Practically all our land birds are insectivorous in the nesting season.

The opinions of many qualified officials who have generously cooperated in our survey emphasize that rigorous measures should be taken by farmers, municipal authorities, golf course officials and other private property owners to avoid damage from using excessive amounts of these poisons. The experience of the fish and wildlife service in treating many types of land should serve as a dependable guide to safe, effective concentrations for various purposes.

With regard to DDT, the fish and wildlife service recommends the use of less than one-fifth pound per acre over water or marsh — in oil solution, not in dust — to avoid kills of fish, crabs and crayfish. Less than two pounds of DDT per acre should be used even in forest areas, to prevent death or injury to birds, frogs and mammals. On turf and lawns heavily infested by Japanese beetles, effective larva control can only be carried out by concentrations as high as 20 or 25 pounds of actual DDT per acre.

DDT should be applied in early spring for early insects and not again until late July or August, after the bird nesting period, to control late appearing insects. The extreme sensitivity of fish and crabs to this poison makes its direct application inadvisable on streams, lakes and coastal bays where injury would be inflicted on commercial or sport fishing, and on ducks, shorebirds and other species which feed on aquatic animals.

The National Audubon Society would welcome specific reports of insecticide experience from entomologists and other qualified individuals or organizations. Such observers should carefully determine the concentrations and amounts employed, as well as the specific mortality or reduction in bird or other animal population that may result in a given area.



Peterson Makes It Easy

"How to Know the Birds" is Roger Tory Peterson's latest addition to the fund of information he has made available to bird students. It is designed primarily for the beginner, but experienced field students will find that it puts into a few sentences and in proper order for quick identification the characteristics which will help the observer classify a bird in its family group and narrow the possibilities as to species. Containing 400 line drawings and much detailed information, it comes in two editions priced at \$2 for the bound volume and only 35 cents for a water-proof paper cover edition. If it is not available at your retail book shop, either edition may be purchased through the Service Department, National Audubon Society, 1000 Fifth avenue, New York 28, N. Y.

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Natural History Museum, Roosevelt Road and Lake Shore Drive, Chicago 5, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

ACTIVE MEMBERS	\$2.00 annually
CONTRIBUTING MEMBERS.....	\$5.00 annually
SUSTAINING MEMBERS.....	\$25.00
LIFE MEMBERS	\$100.00

THE
AUDUBON
BULLETIN



T H E
ILLINOIS AUDUBON SOCIETY
(ORGANIZED IN 1897)

For the Protection of Wild Birds

CHICAGO NATURAL HISTORY MUSEUM
ROOSEVELT ROAD and LAKE SHORE DRIVE
CHICAGO 5, ILLINOIS

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6139 Kenwood Avenue, Chicago 37

*The Society invites the membership of all bird
students and those desiring to support its activities*

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Progress Report—Birds of Chicago

By EDWARD R. FORD and PHILIP A. DUMONT

A MANUSCRIPT for the new *Birds of Chicago* is nearly completed. This actually is a revision of the 1934 *Birds of the Chicago Region* by Edward R. Ford, Colin C. Sanborn, and C. Blair Coursen, published by the Chicago Academy of Sciences, but it has been improved in several ways.

The nomenclature has been brought up to date and will follow the style of the next American Ornithologists' Union check-list in its use of species' names. Discussion of subspecific forms is presented in somewhat more detail when applicable.

Full migration data have been provided by using the extensive William

ROCKFORD — SEPTEMBER 18

Members of the Illinois Audubon Society are invited to join the North Central Illinois Ornithological Society Sunday, Sept. 18, in a field trip along and near the Rock river at Rockford, Ill. The fall migration of warblers and other passerines will be in full swing, and the many beauty spots in this area should provide an interesting list of birds at this time.

The time is 10 a.m. The meeting place, yet to be selected, will be designated in a postcard notification to members as soon as all details of the trip have been decided.

In addition to the prospect of an enjoyable outing and perhaps some new species for many, this trip offers an opportunity to get acquainted with other members from, we hope, a wide area within easy travel distance of Rockford, which is centrally located in the northern part of the state. Principal highway routes to Rockford are U.S. 20, U.S. 51, and Ill. 2.

Dreuth records based on his many years of nearly daily observations of migrant birds in Lincoln Park. Average dates for arrival and departure are indicated, with early and late dates listed separately. It is expected to include a list of permanent residents, a calendar of the normal spring arrival dates, and a review of local breeding species.

There are published notes, or dates in manuscript form, indicating that 134 species and subspecies of birds have been found breeding in the Chicago

area since 1924. A few more than 100 are known to nest every year. For these, the range of nesting dates—earliest, average, and latest during the season—is generally used. For the remainder, some of which may be regular nesters, only the most recent date is cited. Additional nesting data are needed for birds in these groups.

There are no published nesting dates known to the authors during the last 10 years for the following: green-winged teal, latest record 1938; marsh hawk, '39; Wilson's snipe, '37; Wilson's phalarope, '37; Forster's tern, '38; common tern, '40; ruby-throated hummingbird, '37; hairy woodpecker, '37; short-billed marsh wren, '37; warbling vireo, '37; Nashville warbler, '38 (only record); cerulean warbler, '38; rose-breasted grosbeak, '37; and Henslow's sparrow, '39.

The latest published breeding records for another group are from 12 to 18 years old. These are as follows: shoveller, '36; red-tailed hawk, '33; Florida gallinule, '32; black tern, '33; Carolina wren, '35; blue-gray gnatcatcher, '33; yellow-throated vireo, '35; mourning warbler, '35 (only record); Savannah sparrow, '36; and Leconte's sparrow, '32.

The ruddy duck nested in the Chicago region in 1927; the prairie chicken was recorded as a breeder in 1925; and the saw-whet owl in 1932.

Another group, of which the last published breeding record was before 1924, includes the following: hooded merganser, 1909; ruffed grouse, 1920; least tern, 1882 (there certainly must be a later date); least flycatcher, 1904 (also unbelievable); Bell's vireo, 1906; black and white warbler, 1921; chestnut-sided warbler, 1874; Louisiana water-thrush, 1889; yellow-breasted chat, 1921 (aren't there recent dates from the Indiana Dunes?); hooded warbler, 1917; Nelson's sharp-tailed sparrow, 1907; lark sparrow, 1906; and Lincoln's sparrow, 1896.

There appears to be no evidence of the sharp-shinned hawk or of Bachman's (Illinois pine woods) sparrow as a breeding bird. Neither do we know of records for the yellow rail or black rail, the duck hawk, herring or ring-billed gulls, the worm-eating, parula, pine, or Kentucky warblers.

Anyone knowing of published accounts or having notes containing dates of observations later than the above listed is urged to send such information immediately to Mr. Edward R. Ford, Newaygo, Mich.

Another category of treatment in the new list has to do with the accidental occurrence of species, generally some distance from their normal ranges. The passenger pigeon and Carolina parakeet are listed as extinct, with the Eskimo curlew as probably extinct. The whooping crane, trumpeter swan, and wild turkey are considered as extinct in the Chicago region. All except the crane and parakeet are represented by local specimens.

Several species were reported before 1900 but not since. Specimens were generally taken. These included: Pacific loon, 1876; Louisiana heron, 1876 ("identified"); wood ibis, 1869; western red-tailed hawk, 1873; Harlan's hawk, 1893; western pigeon hawk, 1890; black-necked stilt, 1847 ("small flock"); Atlantic kittiwake, 1884; least tern, 1882 (should this bird be considered accidental?); Brunnich's murre, 1896 (recorded); arctic horned

owl, 1874; great gray owl, 1876 ("rare"—probably should be omitted); northern violet-green swallow, 1897; Canada gray jay, 1859; Clark's nutcracker, 1894; Carolina chickadee, 1890; Townsend's solitaire, 1875; MacGillivray's warbler, 1876; Holboell's redpoll, 1878; and arctic towhee, 1898.

Four species, reported during this pre-1900 period in very general terms, are omitted from the list on the basis of insufficient information. They are: eastern glossy ibis, 1871 ("formerly rare visitant"); willow ptarmigan, 1852 ("reported by Hoy"); gull-billed tern, 1876 ("rare summer visitant"); and royal tern, 1876 ("exceedingly rare summer visitant").

The period from 1900 to 1920 produced almost an equal number of rarities, with all except four easily identified species substantiated by specimens. These were: brown pelican, 1904; gannet, 1904; fulvous tree duck, 1919; black vulture, 1909 (dead bird); Swainson's hawk, 1918; prairie sharp-tailed grouse, 1915; ruff, 1905; roseate tern, 1916; black skimmer, 1913 ("seen"); Richardson's owl, 1914 (classed as casual on the basis of three specimens); chuck-will's-widow, 1910 ("seen"); long-crested Steller's jay, 1911; Hudsonian chickadee, 1906; Alaska hermit thrush, 1916; hoary redpoll, 1916; and chestnut-collared longspur, 1912 ("seen").

Even a larger number of accidentals were collected or observed between 1921 and 1940, although records of occurrence since then are lacking. These included: eared grebe, 1939; snowy egret, 1934 (possibly recorded also during last couple of years); cinnamon teal, 1926 ("reported"); swallow-tailed kite, 1921; ferruginous rough-legged hawk, 1939 ("bird in hand"); prairie falcon, 1930 ("seen"); purple gallinule, 1925; snowy plover, 1934; long-billed curlew, 1922; marbled godwit, 1938; Pomarine jaeger, 1921 ("observed"); Wyman's western gull, 1928; California gull, 1940; Thayer's herring gull, 1938; Sabine's gull, 1939; Montana horned owl, 1927; American hawk owl, 1922; Lewis's woodpecker, 1932 ("seen 2 times"); scissor-tailed flycatcher, 1933 ("seen"); Say's phoebe, 1937; northern raven, 1932; varied thrush, 1929 ("seen"); Sierra hermit thrush, 1928; and black brant, 1932 ("seen").

A comparatively few accidental species have been last reported between 1941 and 1949. These were: white pelican, 1946; yellow-crowned night heron, 1943 (recent observations by Mrs. Stephenson mentioned in Season's Reports); American brant, 1943 ("seen"); Krider's hawk, 1942; avocet, 1944; little gull, 1943 ("seen many times"); burrowing owl, 1942; black-billed magpie, 1943; and golden-crowned sparrow, 1942.

Since this manuscript is nearing completion, additional notes on breeding or accidental occurrences must be submitted promptly.



Changes in Directorate

Two of our directors, Jacob A. Emery and Mrs. Lucille Mannix, have resigned because they are leaving the state. Mr. Emery has been ill for some time and is convalescing at his home in Guilford, Conn. Mrs. Mannix is moving to Cleveland. Floyd Swink, Chicago, has been added to the board.

Rare Birds Visit Chicago Area

By JANET H. ZIMMERMANN

THE WANDERLUST SEIZED a bird of the South American rivers, and sent him traveling five or six thousand miles to Lake Calumet, Chicago, in search of new sights. He is the large-billed tern, never before seen in the Chicago area, and never recorded for North America.

Mr. and Mrs. Albert L. Campbell, members of the Chicago Ornithological Society, found him unconcernedly preening himself on a sand pit south of 103rd st. on Lake Calumet, on July 15. When they saw his great yellow bill and yellow feet and legs they felt the way an art dealer does who has suddenly come into the possession of a Raphael painting.

A quick check with Roger Tory Peterson's *Field Guide to the Birds* verified that no North American tern has such a bill. Wilfrid B. Alex-



Large-billed Tern from South America, sketched from life by Dick Zusi.

ander's *Birds of the Ocean*, and Robert Cushman Murphy's *Oceanic Birds of South America* identified it as the large-billed tern. It lives on the sandy banks of large, deep rivers along the coasts of South America. One species is abundant on the Caribbean coast, and is accidental in Cuba, but it has grayish-dusky feet and legs. The primuline yellow feet and legs of the Calumet bird indicates that it is a more southerly species from

Ecuador, Bolivia, Brazil, and Argentina. Its scientific name is a mouthful—*Phaetusa simplex chloropoda*.

Other members of the Chicago Ornithological Society, and of the Evanston Bird club, studied the bird carefully over a period of about 10 days before it disappeared. They further clinched the identification with a visit to the Chicago Natural History museum, where they examined the skins of every tern in the museum's large collection. Those who made the museum trip, after observing the living bird a number of times, were Charles T. Clark, Theodore J. Nork, and Edward Williams, of Chicago; Mrs. Paul Stephenson, Mrs. Russell Mannette, and Mrs. Albert J. Zimmermann, of Evanston, and Mrs. John R. Mannix of Winnetka.

How the tern got to Chicago is anybody's guess. Robert Bean of the Brookfield zoo, and Fred Meyer of the Lincoln Park zoo, declare that it was not an "escapee" from their collections. It might have been carried across the Caribbean by wind currents and continued up the Mississippi and Illinois river valleys to the Calumet area. The habitat is similar to its native one—it's just on the wrong continent.

Another rarity, and a "life-time first" for most of the observers, was a ruff, which spent about a week in mid-July at the sewage disposal plant on 130th st. This bird from northern Europe, Russia, and Siberia, is exceedingly rare, but unlike the tern, it has been recorded a few times. The specimen bore no resemblance to the picture in Peterson's *Guide*. The same group who studied the tern skins went over the museum's collection of ruffs and found it to be a male which was in transition from spring to fall plumage. The ruff was missing, but the breast was still black, and the back a rusty brown heavily tinged with black.

Egrets are back in even greater numbers than last year. There must be several hundred birds in the Chicago area. As many as 40 American egrets have been counted in a single pond. And best of all, there are a few of the once almost extinct snowy egrets, and many immature little blue herons in their white plumage. On Sunday, July 24, near Willow Springs rd. in the new Sauganashkee Wildlife refuge, were seen in a single flight 16 little blue herons and two snowy egrets. The two species are the same size, considerably smaller than the American egret, but the black legs and "golden slippers" of the snowy distinguish it from the little blue, which has greenish legs and feet. For the return of these beautiful birds we must thank the National Audubon Society and its associates who saved them from extinction at the hands of plume hunters.



Bird Slides

Arrangements to borrow color bird slides owned by the Illinois Audubon Society may be made by responsible individuals or groups through Miss Dawn Davey, Illinois Audubon Society, Chicago Natural History Museum, Chicago 5, Illinois. Give preferences as to dates, far enough in advance for return of a loan agreement form.

What Are YOU Finding?—An Editorial

By JOHN BAYLESS

THE "PROGRESS REPORT" by Edward R. Ford and Philip A. DuMont should emphasize to all of us a serious weakness in our organization. This weakness is a failure by too many of us to communicate to others what we are learning in our field trips. Look over their list of birds which have nested in the Chicago region but on which no report is available in recent years. Have these birds deserted our area? You can probably answer this with an emphatic negative in the case of at least a few. You know where they nest each year, and a few of your field companions also know. You regarded them as common, and never thought to mention them to others. Some other members, though, who may be as active field workers as you, may have searched other parts of the area diligently and never happened to find these birds.

"Florida gallinule, '32; black tern, '33." Both these birds nest regularly in Lake Calumet, and the young of both may be found in numbers in July along with the young of the coot, pied-billed grebe, and ruddy duck. The short-billed marsh wren sings his gay imitation of the dickcissel there in May, but does he, like the long-billed marsh wren, spend the summer there and raise a family? I do not know, but maybe some of you do. We heard him last this summer on June 1. The long-billed continued into August.

The point I am trying to make is what good does it do for me to have these facts in my personal records if such data are not shared? In a conversation with a small group of ornithologists the other day (real ones, not just bird watchers like me) the subject of the yellow-headed blackbird came up. One, who is not as active in field work now as he would like to be, said it was strange that none of these birds were in the immediate Chicago area. I told him of the half dozen or so pairs which appear each April on the 110th st. dike in Lake Calumet and stay through July, and of having seen others in the marsh southeast of Barrington, Ill. This was news not only to him but to another in the group.

It should not be necessary for a bird student to seek out the one to a dozen persons who happen to know where a particular bird may be expected to be found. If a strange bird like the large-billed tern from South America shows up, this is spread quickly by word of mouth and even rates a story in the newspapers. The fact that the black-crowned night herons are plentiful and wood ducks and king rails nest at Long John lake on Willow Springs road (104th ave. at 95th st.) may not rate a mention in the daily papers, but should be worth a sentence in the *Audubon Bulletin*. The ruby-throated hummingbird was found at its nest in the May tour of Indiana Dunes park along Trail 2 by members of the Chicago Ornithological Society. Yet 1937 was the latest record Mr. Ford and Mr. DuMont were able to find.

While going over your records for the answers to questions raised in the "Progress Report" ask yourself whether this item or that might not be

a less widely known fact than you had thought. Do other members of the Illinois Audubon Society know about it, or should it be in the *Bulletin*? Many other state societies use part or all of their publications as an instrument of record which gives a localized and detailed supplement to the *Field Notes* of the National Audubon Society. We have published Christmas season census reports annually, but have recorded little of the findings on nesting birds and migration data for this region. It should be done and, with your help, it can be done.

If you have a bird which is highly localized, as is the yellow-headed blackbird, please be specific as to where you found it and when. Orland Park, for example, is a big area. Was it along the eastern edge of McGinnis slough or north along the western edge of the lake?

A sample of what should be published, but to my knowledge has not, is the range in Illinois of the western meadowlark. We have heard it sing along Illinois route 64 near Sycamore, and June 29 and July 21 along Illinois route 53, north of Lombard near Higgins road (Ill. 72). Has it been recorded east of this, and how far east does it range farther south in Illinois?

Send in your notes and help us make available to all members, particularly to newer members who have not made the acquaintance of enough top field workers to have found the best birding spots, the information which we have selfishly locked in our notebooks. The *Bulletin* should provide a continuing record of the birds of Illinois. Nesting in your own yard may be the bird for which some of us have combed wide areas and failed to find.



At a Marsh Hawk's Nest

By JAMES N. LAYNE

ON JUNE 20, 1948, near Highland Park, Ill., I observed a pair of marsh hawks engage in an aerial food transfer. They were over a small cattail marsh at the edge of a rather extensive field when the male dropped the prey to the female, who caught it easily as she flew about 25 feet below. She then glided off into some woods bordering the field while the male cruised above the marsh. As I approached to search for the nest, he soared over to meet me, protesting with a rapid *kuh-kuh-kuh-kuh-kuh*. When I walked a little way in the marsh an unfamiliar, drawn out *whe-e-e-u-u*, somewhat similar to the red-shouldered hawk's call but more whistled, sounded a few yards off, and the female flushed from the nest. Somehow she had returned unnoticed.

Situated in tall cattails about 30 feet from dry ground, the nest was a well constructed platform of dried vegetation and a few sticks. It measured approximately three feet in diameter and stood about 10 inches above the level of the water. It contained five nestlings about four weeks

old and the remains of a partly eaten sparrow-sized bird which I was unable to identify.

During the time I was in the vicinity, the adults circled about the area, calling almost continuously. Of the two, the female was the more aggressive and frequently stooped to within a few feet of my head. The alarm cries of the pair were easily distinguishable, that of the female being higher pitched and more rapid.

Later I watched the nest area from a distance and saw the male again drop food to his mate. This time she circled over the nest and appeared to drop the food, a robin-sized bird, into the nest.

On June 25 I revisited the locality and, with the aid of my brother, Glenn, erected an observation blind within 15 feet of the nest. The adults behaved as on the first visit, the female again taking the initiative while the male remained at a safe distance.

The following day we returned and moved the blind closer to the nest. On this occasion the alarm notes of the female marsh hawk attracted a female sparrow hawk from the nearby woods. Calling excitedly, the diminutive falcon stooped savagely and repeatedly at the less maneuverable marsh hawk. The latter persisted in following above us when we entered the woods, but the male kestrel presently joined his mate and helped her drive the harrier back to its own territory. The sparrow hawks undoubtedly had a nest in the woods, for they showed great concern over our investigation of likely-looking trees.

At 6:45 the next morning, I entered the blind with camera and notebook. The young, apparently more precocial than those of tree nesting hawks, had dispersed into the marsh. While I settled myself in the blind, Glenn splashed about retrieving them. He succeeded in replacing four, but could not find the fifth. Then, doing service as "walk-awayster," he left the marsh with the female following after him. She returned within a few minutes, perched in a dead tree about 75 yards from the nest, and commenced to preen. The bulging crops of the nestlings indicated that they had only recently been fed, and, as a result, they were rather inactive. Although they dozed often, they were instantly alert to any sound coming from the surrounding marsh and would intently watch airplanes and birds that came into view. Their time was about equally divided in resting, either erect or lying down, on their tarsi, or in standing. Occasionally one would lie on its side and stretch a wing and leg simultaneously.

The following excerpts from the notes taken on this date might serve to give a better indication of the activities at the nest during the three hours it was under observation:

7:36—Female, still perched in tree, gives "long" call, the red-shouldered like *wh-e-e-e-u-u*. Repeats it several times.

7:57—Female leaves tree and glides over nest at about 10 feet, lands in top of dead tree back of blind, and utters a short, breathless, half whistled *kwee*, *kwee*.

8:01—Two redwings fly low over nest and young hawks react with a

feeble chippering note. Female still perched in tree behind blind. Repeats "short" call several times.

8:19—Female returns to original perch in front of blind. Gives "long" call.

8:30—Female leaves perch after giving "long" call. Nestlings are instantly alert. They stand up, stretch their wings over their heads, preen, and make quick stabs at the vegetation of the nest.

8:37—"Long" call of the female heard. Young begin peeping as she appears carrying something in her talons. She circles low over nest but goes off. The young flap their wings and scan the sky. One walks into the marsh.

8:42—Another nestling follows the first into the marsh, and food calls are heard from a spot near where they disappeared.

8:43—A third nestling enters marsh. Only youngest remains.

8:45—Female leaves young in marsh with something in her claws. She was not seen alighting. One of the young returns to the nest.

8:47—Female alights in nest with beak full of dried grasses. Young greet her with food calls. She presses the material into the center of the nest and leaves.

8:49—Female returns with about a six inch stick, places it in center of nest, glares at blind, gives "long" call, and then leaves.

9:20—Female comes to young in marsh and gives "long" call. They respond with food calls. The two young remaining in the nest are nervous. The female leaves, carrying what appears to be a tuft of dried grasses in her beak.

By 9:50 all the young had left the nest and wandered into the marsh. No longer being able to observe them, I left the blind. I was standing a few feet from it, adjusting my camera, when the female swooped down and struck me on the head from behind. Although not painful, the experience was surprising.

My brother and I again returned to the nesting area on July 1. The mother hawk was particularly belligerent and struck us both on the head while we were in the vicinity. We were interested to find one of the nestlings in another nest about 40 feet from the original one. It was of similar construction, but slightly smaller in diameter and not built as high above the water. Abundant droppings, scattered down, and a casting composed largely of fur with a few feathers, indicated that this "accessory" nest had been in use.

Two feeding (?) platforms were also located near the two nests and also showed signs of use. They consisted of matted-down cattails, bits of dried grass, and a few sticks. The nestlings evidently had little difficulty in finding their way to and from these platforms, even though it involved wading through several inches of water for distances as far as 40 feet. Before we left the vicinity on this date, two other young flushed and flew unsteadily into the woods. No trace of the remaining two was found.

We made our last visit to the area on July 18. All five young, then about seven or eight weeks of age, were on the wing. They did not seem

to possess the easy, buoyant flight of the adults; but they were quite active, diving and twisting in mock combat, sweeping low over the field, and making sharp banks over spots that might conceal quarry. For a while one harrassed two crows perched in a tree and another pursued a redwing for a short distance. When they perched, which was frequently, it was always in the topmost branches of a small tree, where they seemed to have difficulty balancing. They were never seen to alight on the ground. The parent birds did not appear.

Our next opportunity to return to the nesting area did not come until late in the summer. By that time the marsh hawks and their interesting family were gone.



Bird Names

By ALFRED C. AMES

OBSERVERS AND STUDENTS of American birds constantly use a specialized but popular vocabulary—the common names of the species. They must have wondered occasionally about the origin and history of this nomenclature. Where did these words come from? When did they enter the English language? What changes of meaning and linguistic accidents are they known to have undergone?

Roger Tory Peterson's *A Field Guide to the Birds* (east of the Rockies) gives in its main series of entries 165 different "last names" of birds. "Last name" in this context means the final word in the species entry. In compiling the list, I jumped but one gap between words—that between man-o'-war and bird. Accidentals were not included, nor names that occur in the western but not the eastern guide. What follows is the fruit of investigating these 165 words in *A New English Dictionary on Historical Principles* and its supplementary companion work, *A Dictionary of American English*. The former of these dictionaries endeavors to describe the history since the year 1150 of all standard words recorded in written English up to the date of preparation, with a full account of etymologies and with quantities of dated quotations exemplifying use of the words in context. The American work, dealing with terms specifically related to American experience, likewise gives dated quotations derived from American sources only. From these two works a reasonably thorough account of American bird names can be derived.

Of the 165 items, 35 cannot be traced to languages other than modern English. Two are proper names (turkey, and mag in magpie), 15 are of obscure etymology, and 18 are echoic. The items of unknown source are all from 14th to 17th century time span, and pose fascinating riddles; bunting, puffin, widgeon, godwit, grouse, and scoter are representative.

Eighteen names originate with the birds themselves. The words are imitative or onomatopoeic. They represent a variety of birds: whip-poor-

will and his relatives, chuck-will's-widow and poor-will; old-time curlew (1377) and recent dickcissel (1887); aptly named killdeer, pewee, chickadee, and bob-white; less aptly named pipit and veery.

Two of these imitative names have undergone marked simplification. The willet was called Will Willet as early as 1709, but appears as lower-case willet only late in the 18th century. In 1774 John Adams wrote, "Young Ned Rutledge is a perfect Bob-o-Lincoln—a swallow, a sparrow, a peacock." By stages simplification took place: Boblincoln in 1792, Bob-o'-link by 1844, and bobolink first recorded from 1848.

The tally of 18 echoic names does not include owl (ante 1000), cuckoo (13th century), or caracara (1838), credited to Old English, French, and Spanish, respectively. Here the language of nature was first translated into some tongue other than modern English. Cuckoo is especially interesting. It is found soon after the Norman conquest, but has maintained an unusually stable pronunciation; as the lexicographer quaintly says, "The annual lessons given by the bird have prevented the phonetic changes which the word would normally have undergone."

In analyzing language backgrounds, I have tabulated the languages from which the words in question came into modern or Middle English, rather than the language of transit or ultimate origin. The many compound names such as bluebird and redpoll I have subdivided and totaled in fractions. The general summary of language sources thus computed is: Germanic languages, $78\frac{1}{4}$; Italic languages, $47\frac{1}{4}$; American Indian, $3\frac{1}{2}$; Celtic, one.

Of the Germanic element, all except nine words are of West Germanic origin. Representative of the small Scandinavian element are wing and legs (in combinations) and loon. In the late 17th century four words from Old Norse entered English: auk, fulmar (foul + mew, or gull), skua, and tern. From 1743 Icelandic eider is recorded, in Swedish form. Of necessity, these are characteristically northern birds.

Isolated items are coot (Low German), siskin (Flemish), and jaeger (German). Siskin is the only word here considered to be of ultimate Slavic origin. The Polish cognate is *czyzik*. In 1768 Pennant wrote of the siskin, "an irregular visitant, said to come from Russia." *Jaeger* is the modern German noun meaning hunter.

Old English words form the largest single bloc, and also comprise three-fourths of the compound terms. Twenty-one simple bird names have been recorded, substantially as we now know them, by the year 1000. Birds with these names have obviously been (with one exception) conspicuously before the English speaking people for a millennium: chicken, crane, crow, duck, finch, gannet, goldfinch, goose, goshawk, hawk, kite, lark, owl, pelican, raven, sparrow, stare (i.e., starling), swallow, swan, thrush, and wren. The exception is pelican, a loan-word from Greek through late Latin, used with a vague ornithological meaning in Biblical translation ("I am like a pelican of the wilderness," *Psalms* 102:6). There are no pelicans in England.

Finch, one of the oldest among old words, has a cognate in Sanskrit meaning brown or reddish. Goldfinch and goshawk, compounds, are fore-runners of dozens of others—some introduced early (woodcock, titmouse, nuthatch), some late (oven-bird, longspur). Old English stock figures in all the compound names except French gyrfalcon and oyster-catcher. In the Middle English period appear dove and teal, not recorded in Old English, but probably present there. Shrike, still a dialectal name for the missal-thrush, was applied to butcher birds in the 16th century. Ancient words such as swift and stilt acquired avian meanings later. Creeper, dovekie, and limpkin have been formed on old roots.

Words of Italic derivation may be subdivided into Latin, French, and Iberian loans. Proportions between these three are roughly two to six to one. These proportions would be different, of course, if they were computed on the basis of ultimate origin.

Largest single Italic group is the Old French, nearly all of which passed into English in the 14th century when the native tongue was emerging from the Norman eclipse. Here we find falcon, jay, mallard, heron, eagle, vulture, and others. Numerous words in this group had an interesting history before they appeared in Old French. The proper name, Robin, has been subsequently applied to a common bird in England and another in America. Old French elements in compound names include canvasback, bluebird, mockingbird.

Modern French loans, about a dozen in number, are scattered through several centuries. Cormorant and egret stand early in the series, avocet and phalarope (1776) late. Only grosbeak and guillemot retain obviously French spellings. The former is appropriately descriptive; but what William had to do with the sea-pigeon is obscure.

Of the 10 names from Latin, few have had a continuous history. Partridge (then pertrich) was a Middle English borrowing from Latinized Greek. Ibis, like pelican, entered by way of the Bible. Osprey has a long history, with some gaps in it. The word is referred to Latin *ossifraga*, bone-breaker. Pliny applied the word to a bird of prey, probably the lammergeier, but the transference (if there is truly a connection) occurred early. Other Latin elements are from late or modern Latin, rather than classical: tanager (formed on a Tupi word), merganser (diving goose), gallinule (little hen), oriole (*aureolus*, golden). As is noted elsewhere, Romance loans generally have Latin sources.

The handful of Spanish-Portuguese names is strangely assorted, and each dates from a different century: flamingo, booby, junco, and caracara. The first is, of course, related to *flamma*, Latin for flame. Booby has long meant both fool and gannet. The next ultimate source is *juncus*, Latin for rush. A Spanish manuscript of 1599 refers to *junco ave*—a bird with long and narrow tail, like a rush (compare related jonquil). Caracara, like tanager, has been transmitted from Tupi, a language of Brazilian natives.

The scarcity of surviving Indian names for the distinctive bird life of the New World is downright astounding. A fairly large number of North

American mammals bear Indian names—moose, chipmunk, raccoon, opossum, skunk. But the North American Indians' only sure contribution to American bird names is the squaw in old-squaw, with sora and dowitcher obscure probabilities. From Brazilian natives come ani directly and caracara and tanager indirectly. And that is all.

Celtic, once the principal mother-speech of western Europe, has shown a general lack of vitality. Gull may be Celtic; ptarmigan surely is of at least mediate Celtic origin. The trail leads from modern English to lowland Scots, to Gaelic, to possibly non-celtic obscurity. The "p" has no business being there. A late 17th century pedant, under the influence of some Greek words really beginning with "pt" (cf. pterodactyl, ptomaine), clapped it on arbitrarily.

Background movements between non-English languages deserve brief mention. Credited to French above, but going back to old High German, are heron, egret, warbler; going back to Greek are phalarope and pheasant; going back to Italian are avocet and paroquet; going back to Latin are cormorant, cardinal, falcon, plover, and others. Ibis is ultimately Egyptian. Other borrowings outside of English territory have been noted elsewhere.

When bird names are tabulated according to date of entry into English, several bulges become evident. First, before 1000, are the hardy Old English terms. Then, in the 14th century, is the French flood as England's Norman aristocrats turned to English. The latter part of the 17th century showed unprecedented activity in compounding—bluebird, flycatcher, mockingbird, shearwater, turnstone, and others date from this period. The last time of active growth was 1750-1850, with compounds (cowbird, kingbird, pintail, sapsucker, etc.) again leading, followed by echoic names, French, and modern Latin.

Inactive periods were 1000-1200, 1400-1600 (marked chiefly by about half the insoluble etymologies, and by a few early compounds such as blackbird and woodpecker), and 1850 to date. The list of the last arrivals, seven between 1850 and 1890, is an interesting index of late discoveries or of re-naming. In chronological order it is: bob-white, road-runner, dowitcher, longspur, poor-will, limpkin, and, last of all, dickcissel (1887).

Names are but infrequently dislodged, however. Exceptional instances include quail largely replaced by bob-white, carau by limpkin, black-throated bunting by dickcissel, bald-face by baldpate, shoveller by spoonbill (shoveller was then applied to a duck), darter and anhinga, in part, by water-turkey. Popular nomenclature of birds has experienced some little growth in recent decades, but it is not concerned with "last names."

The names of eastern America's birds, it is clear, in general antedate the observation of birds in America. About half the words have substantially equivalent denotations in both hemispheres. A fourth have undergone change of meaning in crossing the Atlantic, and a final fourth are of New World origin.

In general, cosmopolitan and oceanic birds have the same names in America as in England: auk, booby, cormorant, mallard, phalarope, etc. General surnames of large families represented on both sides of the ocean

have experienced no particular shift in meaning: duck, gull, heron, owl, plover, rail, sandpiper, wren, for example. On the other hand several dozen names are peculiarly American. These include a high proportion of the echoic words: chickadee, flicker, killdeer, pewee, towhee, whip-poor-will, among others. Numerous compounds arose here: bluebird, catbird, cowbird, kingbird, mockingbird, longspur, road-runner, water-turkey. In fact, echoic and compound words account for all of America's contribution, except for the tiny Indian element and except for the partial compound limpkin and vireo (for English greenlet).

Where referents differ between England and America, the difference is often slight, as between Old World and New World coots, crows, kingfishers, snipe, teal, and woodcock. Occasionally, however, the meanings diverge widely. There are generic differences between flycatchers and vultures on either side of the ocean. Names of members of the family *icteridae* especially represent new uses of old words. The golden oriole of Europe is not a near relative of our orioles. European grackles are in the starling family, and in England blackbird and red-wing denote thrushes. In England, water-thrush means ouzel or dipper, rather than a warbler. England's warblers are in the kinglet family, *silviidae*; our wood warblers are peculiar to the western hemisphere.

The very paucity of native American materials in bird nomenclature is weighty evidence not only of birds' widespread distribution, but also of the distances in time and space spanned by mankind's insatiable interest in birds.



Goatsucker Ranges Overlap

Did you know that there are places in southern Illinois where one may hear both the whip-poor-will and the chuck-will's-widow calling at the same time? We had this experience June 8 in Franklin county, about 320 miles south of Chicago. Pausing along a narrow country road shortly after dark, we heard first the "chuck—wiLLS-WIDow" only a few yards out in a meadow to the left of the car. It called several times and then between its calls we heard more faintly the "WHIP-poor-WILL, WHIP-poor-WILL" of his northern cousin in faster tempo coming from a patch of woods about 300 yards to the right of the car. We heard several more of each farther along the road. Returning a half hour later along the same route and at about the place where we had first heard the chuck-will's-widow the car lights picked up a tiny reddish glow in the road ahead. Slowly we crept forward, stopping about two car lengths from a "chuck" clearly shown in the headlights, its eye glowing brightly. We examined it closely with our binoculars through the windshield until it leaped into the air for an insect. It lighted a bit farther away and when we tried to move closer again it flew off into the meadow. We have found whip-poor-wills on the road this way before, six in an evening drive, May 11, through Brown county, Indiana. The "whip" shows large areas of white as it leaps into the air, but our "chuck" showed only brown in the car lights.

—J.B.

Bird Banding Results

By PAUL E. DOWNING

"OUR ROBINS ARE BACK! I know it is the same pair that has been coming here for many years because they have built in that same spot as long as I can remember."

That statement indicates that the speaker notices the bird-life around his home, but it also indicates that he or she is not a bird bander. The bander *KNOWS* the bird is the same one which was here in previous years, not by the location of the nest or the habits of the bird, but by the number stamped on the aluminum band the bird is wearing. The identification is positive because there is no other band bearing the same number.

The above speaker will then feel that he has attributed an unusual length of life to his birds, and his next sentence usually will be a question: "How long DO birds live?" I suspect that every bander has been asked that question many, many times. It is a hard one to answer.

The publications of the bird banding organizations have listed age records for many of the species, and a few special studies have been made to determine the life expectancy of a few of the species, but we still cannot answer the question in a few words. Just to give you an idea:

Mrs. Downing and I have been banding birds since 1935, and we have had several hundred birds return to our traps one or more years after banding. Most of these birds returned the first year after banding and were not heard from again, but a few were retaken several times in subsequent years. There are others which were recovered at some point away from the banding station and were reported by the finder to the Fish and Wildlife service. The recovery of these birds is then reported to the bander in order that his files may be complete.

The word "return" is used to indicate a bird which is retrapped approximately at the point of banding. A bird which is caught, found, or killed at some other place by a person other than the original bander is called a "recovery." Most of the birds mentioned below were adults when first captured, so the age indicated is the minimum.

There are very few mourning doves in our records, but we have had nine doves return to our traps. Two were one year old when last taken; six were at least two years old, and one returned when at least five years old. Three additional doves were shot, two of them only a few months after banding and one the following year. Of the 12 doves of which we have records subsequent to banding, only one is known to have lived more than two years.

Although the blue jay is a persecuted species, the jays seem to have done better than the doves. Of the 81 jays producing records after being banded, 57 returned to our traps and 24 were recovered elsewhere. The minimum ages of those retaken as returns were two birds one year old, 31 two years old, 10 three years, seven four years, four five years, two six years, and one jay was at least seven years old when last recorded. Of the 24 recovered blue jays, 10 were dead within the first year, four more died

before their second year after banding, five lived two years but less than three years, one died after three years, one after four years, one after five years, and one after six years, while the oldest one was shot just a few days ago when he was at least eight years old.

The Baltimore oriole has not provided as many recoveries or returns as the blue jay, but we do have some information on 21 of them. Three of these were recovered; two in their second year, and one in his third year. The minimum ages of the 18 returning to our traps were: 10 at least two, two at least three, five at least four, and one at least six years old.

There are records of cardinals living to be nine, ten, or even older, but the oldest cardinal in our records is one that was at least five years old when last captured.

The robin has not produced many recovery cards, only four being in our files. The oldest one was at least three years old when killed. Twenty-eight returns to our traps produced six birds past three, one past four, and one past six years of age.

Perhaps the starling is the most persecuted of all our passerine birds and, no doubt, most of them die at an early age. However, a few birds of this species live to chase many a woodpecker from his nesting hole. In cooperation with Mr. and Mrs. Louis G. Flentge, formerly of Des Plaines, Ill., we have banded several thousand starlings. From our half of these birds we have received 142 recovery cards. These show that 61 of the 142 (almost 43 per cent) were dead in less than one year after banding. Forty (about 28 per cent) lived less than two years. Twelve (about 8 per cent) survived almost four years, while one passed four years, two passed five years, and one individual was over eight.

These are only a part of our records, but if all of them were included the number would be pitifully small considering that we have banded thousands of birds. Much has been learned through the banding method of bird study, but our knowledge could be increased even more if we could get a larger number of recovered bands. You can help in this study by examining dead birds for bands and sending any you find to the Fish and Wildlife Service, Patuxent Wildlife Refuge, Laurel, Md. Use scotch tape to fasten the flattened band to your letter, and give your name and address together with any information you have about the bird wearing the band. Tell *When*, *Where*, *How*. You will receive a letter telling you when, where, and by whom the bird was banded, and you will have the undying gratitude of the bander.

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Blue Grosbeak Moving North?

Dick Orr reports finding blue grosbeaks along the Sangamon river near Springfield. The editor found one much farther south in Illinois last summer and thought he was on the northern limit of their range then according to information in the bird books. Does anyone else have records of blue grosbeaks in the state? Is this bird extending its range northward as is its relative, the cardinal?

THE ILLINOIS AUDUBON SOCIETY.

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Natural History Museum, Roosevelt Road and Lake Shore Drive, Chicago 5, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

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(ORGANIZED IN 1897)
For the Protection of Wild Birds

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ROOSEVELT ROAD and LAKE SHORE DRIVE
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Death of a Lake

By RICHARD T. ORR

ONCE UPON A TIME—a little more than 25 years ago, in fact—the citizens of Decatur, Ill., built a beautiful lake. They needed water. The population was growing. More industries were coming to the city. In addition to a water supply for the city, the people wanted an attractive scenic area where they could build nice homes, where they and their neighbors from the surrounding countryside could swim and boat and fish and enjoy other forms of recreation.

They called it Lake Decatur. They thought it would last indefinitely. It won't.

The lake is dying.

At first you might consider this merely a problem for the citizens of Decatur. It isn't. It's a problem for every conservationist, every bird watcher, every student of wildlife—every citizen. For every citizen should be a conservationist.

This is the story: When the citizens of Decatur started to plan their lake they of course thought of the historic Sangamon river, which flows past the edge of the city. Why not build a dam across the Sangamon? It would form a perfect reservoir.

The dam was finished in 1922 at a cost of 2 million dollars. The lake thus formed covered an area of about 2,800 acres, extending eight miles upstream from the city. Decatur had a right to be proud of its lake.

Water survey specialists estimate that, despite a prospective growth in population and industry, Lake Decatur should have provided the city with an adequate supply of water for 78 years, or until the year 2000. But something has happened to upset these calculations. Now they estimate Decatur will need a larger reservoir by 1956—when Lake Decatur will be only 34 years old!

Before it reaches Decatur the Sangamon drains an area of about 600,000 acres of fine, rich farm lands of east central Illinois. It flows through six counties—Macon, Piatt, DeWitt, Champaign, Ford, and McLean.

The tragedy of the lake is that from this vast area flow millions of tons of silt each year. The silt—rich, black topsoil—washes into the lake, strangling it, killing it, so that not only is the lake being filled but hundreds of thousands of acres of first class, food-producing farm land is being robbed of its fertility at an inestimable cost to the people of Illinois and the nation.

The tell-tale silt began to appear in the small bays and inlets of the lake

as early as 1930 when the lake was only eight years old. In 1936 a complete survey of the lake was made by the United States soil conservation service, the state water survey, the Illinois agricultural experiment station, and the city of Decatur.

E. D. Walker, extension soil conservationist and associate professor in agronomy extension at the University of Illinois college of agriculture, has reported the results of this and subsequent surveys. The 1936 survey disclosed that sediment had been filling the lake at the rate of 1 per cent of its capacity each year. By 1946, only 24 years after the lake had been built, *more than one-fourth of its capacity had been filled with precious topsoil.* The lake's surface had been reduced by 201 acres. Mud bars topped with tall weeds appeared where before there had been only water.

Naturally this became a matter of great concern to the city of Decatur, which in 1941 established the upper Sangamon valley conservation service and employed two soil conservationists to help with the problem. Engineers also were put to work to find an answer to the city's dwindling water supply.

The engineers subsequently recommended that the city build two new lakes upstream, each with a capacity comparable to that of the present lake; also, that the dam on the present lake be raised to increase the capacity of that reservoir. The cost is estimated at 6 to 10 million dollars.

Harry R. Beeson, a conservationist employed by the city of Decatur, recognizes that these projects in themselves won't solve the problem of the lake. A comprehensive program of conservation must be followed. Such a program will include not only conservation of the soil, but also of all wildlife, which is dependent for its existence upon the productivity of the soil.

Fish do not thrive in a lake where the silt is so thick it covers their spawning areas or prevents them from feeding. Larks do not sing in eroded meadows denuded of tall grass. Feathered creatures do not abound on unproductive farm land, too poor to produce food, too barren to offer cover of shrubs and trees.

As Beeson puts it: "If you have a good program which will maintain highly productive soils, you will have wildlife."

In the meantime, while the people of Decatur and their industries need more water each year, the lake is supplying water in ever diminishing quantities.

Walker says that "what is happening here is happening all over the country. Because of uncontrolled erosion we are losing the food producing layer of our soil."

Lake Decatur serves merely as an example of our wasteful methods of land management, says Walker. He warns that much the same story can be told of some of the other 500 lakes in Illinois, particularly those where a large part of the watershed is in cultivation.

Spring lake, at Macomb, Ill., for example, is approximately half full of sediment. Lake Calhoun, near Galva, Ill., is so nearly full of sediment that it has lost much of its value as a recreational center.

"Even though there is not always a lake to catch the runaway soil, we

know that the same serious problem of soil loss exists in all parts of our state, and in all parts of our country," says Walker.

"When the Mississippi river is at flood stage, the equivalent of the topsoil from a 40 acre farm is carried past Vicksburg, Miss., every minute, according to careful estimates of engineers. Much of that topsoil comes from Illinois farms. Evidence of this fact lies in the eroded fields, and even abandoned land, in all parts of the state."

Walker says best estimates are that about 9 per cent of Illinois land is subject to "destructive" erosion, 9 per cent to "serious" erosion, and 59 per cent to "harmful" erosion. Fertility will continue to be depleted unless correct farming methods are more widely adopted, he warns.

This of course, is a matter of particular concern for farmers. The soil literally is being washed from under their plows. Why? Walker reports the



Lake Decatur at this point was four feet deep in its early years.

(Photo by the author)

main reason that the rate of erosion has increased 20 per cent since the early days of Lake Decatur is because of the change in the use of the land.

In 1922 the intertilled, erosion-producing crops of corn and soybeans were grown on 41 per cent of the farm land in the six counties from which the water flows into Lake Decatur. The remaining 59 per cent was used for small grains, hay, and other crops that hold the soil better than tilled crops.

By 1945 the acreage of corn and soybeans had expanded until the two crops occupied 60 per cent of the farm area of the six counties. Altho total acreage of these crops has since declined slightly, in some areas 80 per cent of the land continues to be planted to corn and soybeans. This, Walker points out, leaves little acreage for the close growing crops which help to hold the soil.

The solution? Put into crop production only land that can be safely used for that purpose. Leave the rest for hay, pasture, and timber. Use better rotations on the land set aside for crop production. No more than half of even the best land should be planted to intertilled crops such as corn and soybeans in any one year, says Walker. Leave a fourth of the land for small grains and a fourth for pasture mixtures of legumes and grasses.

Where land is of low fertility or in much danger of erosion, reduce the proportion of intertilled crops to a third, a fourth, or even a fifth. Increase pasture acreage correspondingly.

Use plenty of the right kinds of fertilizers. Employ such erosion-stopping procedures as grass waterways, contouring, strip cropping, terracing, and planned draining. Engage in better methods of farm woodlot management, reforestation, and wildlife protection.

The death of a lake is a big price to pay for these lessons in conservation, but if they're well learned it's worth it.



Jackson Park Birds

By MARJORIE and JAMES DECKER

BIRD WATCHERS LIVING in the suburbs probably feel they have a distinct advantage over city dwellers when it comes to seeing birds in their own backyards. However, we have found Jackson park to be a convenient substitute for the backyard, offering constant variety in bird life, only a few blocks from home. Here, in the midst of the city and surrounded by busy city life, we have some of the most interesting birding in the Chicago region.

This article is a summary of bird activity in the park from Jan. 1, 1949, through Oct. 24. During this nearly 10 months we saw 148 species. We visited the park about 60 times in this period, mostly on weekends plus a number of short early morning walks during spring migration.

Jackson park is an area of 543 acres, with 22 acres set aside and fenced in for a bird sanctuary. Most of this sanctuary is visible from the 63rd st. extension bridge separating the two lagoons. In this sanctuary are several small islands, one of which this summer served as a gathering and regrouping place for large numbers of black-crowned night herons on their way from feeding grounds to the south to their roost north of the city. Often 75 to 100 of the herons would stop between 3 p.m. and dusk, coming in at a great height, then swooping at breath-taking speed, more like hawks than herons. They would fly in and take off in twos and threes all afternoon, until at twilight 40 might be seen in the air at once, flapping northward. By Aug. 15 most of the herons had left.

The more productive parts of the park lie between 63rd and 59th sts., from the inner branch of the drive to the lake front. This includes the sanctuary and Wooded island, on which are both the famed chrysanthemum garden and some remains of the 1898 Columbian exposition. Excellent areas outside this part are the yacht harbor and lagoon directly south (after the boats are removed for the winter) and the bushes along the bridle path running south along the outer drive to the golf course. Another good spot is the small vegetable garden near the tennis courts just south of 63rd near the park entrance. In this one and a half acre plot 10 species of sparrows, including Harris's, Henslow's, and Lincoln's, were seen in less than an hour Sept. 29. Here, too, during the fall migration were found numerous ground and low-feeding warblers and thrushes.

The lake front, yacht harbor, and lagoons are particularly good for gulls, herons, and ducks; during the year 20 species of ducks, grebes, and loons were seen. These included American scoter; hooded, American, and red-breasted mergansers; greater and lesser scaup; golden-eye, ruddy duck, canvasback, pintail, and horned and pied-billed grebes. Usually at least 100 golden-eye could be seen during the winter. Often 20 to 30 blue-winged teal were in the lagoon later in the spring. Flocks of 200 or more herring, ring-billed, and Bonaparte's gulls appeared at intervals.

On April 15 Jim had an excellent opportunity to observe at close range the mating antics of 150 red-breasted mergansers, which stayed in the lagoon east of the chrysanthemum garden for nearly two weeks. On that morning the nearest of the birds were only a few feet away, and were fascinating to watch as the males nodded, rocked, and skittered along the water with their beaks open, attempting to gain favor with the females, which made up about half the flock. Often several males would court the same female, which led to arguments; their advances were often rebuked by the females who showed their dissatisfaction in no uncertain terms.

A flock of 28 Canada geese, about 200 mallards, and a few black ducks are part of the year-round fauna of the park. Some of the mallards migrate, but all the geese stay since the adults are pinioned. This year 10 young were successfully reared by the geese.

At this point several of the hazards of park bird watching might be mentioned. Except in the early mornings and during school hours, no part of the park is safe from small boys zealously pursuing games of Indians, cops and robbers, and hide and seek through the bushes, along the shores, and in any other place where you have happened to locate a bird you would like to watch a little longer. We have often suspected that certain small groups of these happy gamins have been assigned to stay with us throughout the day and thwart all our efforts to see more of a bird than the flick of his tail as he flies away. Other individuals also appear at most unpropitious moments. This is especially true in the old Japanese garden along the lagoon at the north end of Wooded island. Here a small stand of reeds offers good cover for sparrows, wrens, and other birds liking such a habitat.

Shore birds, except for killdeer, spotted sandpipers, and sanderlings on

the lake front, were rare; however, on May 22 a black-bellied plover was seen on the island in the sanctuary.

Hawks were seen in some numbers, mostly sharp-shinned and Cooper's. Sparrow hawks are seen often and are likely nesting in the park. One pigeon hawk was seen May 3. On April 23 six recalcitrant marsh hawks were seen flying *south* over the beach. (On Oct. 15, a wonderful Indian summer afternoon, 15 accipiter hawks spent several hours soaring lazily over the lagoon.)

Here is a chronological account of new arrivals in the park. Not all are mentioned but a complete list of the birds we saw in the park appears on page 8.

Wintering land birds were not numerous; they included several tree sparrows, a half dozen juncos, several cardinals, downy woodpecker, sparrow hawk, and starlings and English sparrows. Winter ducks were numerous, including an American scoter seen Jan. 15. On March 4, a cold, wintry day, three redpolls were taking baths in a small pool. The same day the first coot returned. The earliest bronzed grackle returned Feb. 19, but not until March 5 was he joined by friends. On March 20 the first Bonaparte's gulls since early winter appeared, along with two mourning doves and a kingfisher. The kingfisher had not left the park until after Dec. 25. On March 23, field sparrows, phoebe, flicker, and black-crowned night herons were seen. On March 25 we saw 25 species; the new ones that day were the red-tailed hawk, song sparrow, and brown creeper. The first large flocks of female robins also arrived the 25th, about a week after the homesite-seeking males.

By April 1 the towhee, red-winged blackbird, hermit thrush, golden-crowned kinglet, and fox sparrow had arrived. Also present were large numbers of juncos, and tree and white-crowned sparrows. Most of the winter ducks had left, but a few scaup, goldeneye, and old-squaw were seen up to April 15.

April 13 brought ruby-crowned kinglets, a blue-gray gnatcatcher (the only one seen until several weeks later), bluebirds, cowbird, and the one owl seen during the year, a brown-phase screech owl, who sat blinking in a tall maple on Wooded island.

April 15, a miserably cold and blizzardy day, was memorable for us because it brought five common loons into the lagoon. Jim had the day off—Good Friday—and spent several hours watching them and the mergansers, resulting in a cold which kept him in bed three days. The next day, when Marjorie saw them, the weather was better. The first myrtle warblers also appeared April 15. The loons remained for 10 days.

Between April 21 and 24 one female hooded merganser, six marsh hawks, common and Forster's tern, seven ruddy ducks, horned grebe, purple martin, brown thrasher, and olive-backed thrush were seen. April 30 the first yellow warblers, 20 purple finches, little green heron, spotted sandpipers, and gray-checked thrush appeared.

May 1 brought the first small group of warblers numbering about 15. These included Blackburnian, black-throated green, and black and white.

Several blue-headed vireos and a Cooper's hawk were also seen, for a total of 38 species for the day. On May 3 the great blue heron was seen high over the lagoon, and the sharp-shinned hawk and barn swallow were observed. This was the first day of the three 90-degree days which were so unusual for early May, and yet which brought surprisingly few birds to the park, in spite of a warm south wind. The rose-breasted grosbeak, redstart, nighthawk, and catbird came in on the 4th, while the 5th brought the goldfinch, magnolia and Nashville warblers, northern water thrush, chimney swift, and small flycatchers—all in small numbers. The willow thrush and Cape May warbler were seen May 7. May 10 saw the pigeon hawk and yellow-billed cuckoo as new arrivals.

Records for these weekday mornings are far from complete. For the most part only short walks on Wooded island and along the shores of the east lagoon were possible.

The first day warblers were seen in numbers was May 12, when 14 species were recorded. Among them were Tennessee, pine, prairie, chestnut-sided, black-throated blue, and Cape May. The wood pewee and the Baltimore oriole also returned. The scarlet tanager arrived May 13. Vireos and flycatchers became more numerous in the next week, including the olive-sided flycatcher and all the vireos except Bell's. The Connecticut warbler and Savannah sparrow arrived May 16. Then came a lull until May 22, when the largest migration of the spring was noted. On that day from 400 to 500 of the smaller birds were estimated in a few hours—16 species of warblers, including the Canada and mourning, many olive-backed thrushes, and more than 50 small flycatchers. By the next day most of these birds had gone, and after this peak day fewer birds were seen until by June 4 almost no migrants remained. May 29 was the last day when any number appeared, with 30 species counted.

June saw the residents busy with family duties. On July 2 we saw many black terns and young moving from their nesting areas to the park and July 22 about 70 of these graceful little terns could be seen diving in the lagoons. Two great blue herons came in mid-July and could be seen stalking or flying until late August.

On July 27 while listening to a ball game on the portable radio and reading a book, Jim was most surprised to look up and see an immature little blue heron flying over the garden. It was in July, too, that we saw two very perplexed spotted sandpipers trying frantically to join each other through a seemingly impenetrable barrier. They were separated by the 8-foot wire fence of the sanctuary, and evidently thought it stretched interminably into the sky, since they flew frantically back and forth along it, never once trying to fly over it. Occasionally one would land, scratch his head thoughtfully, and then start back again along the fence.

August saw the beginning of the fall migration. On Aug. 27 several redstarts, small flycatchers and common tern were seen. Incidentally, far fewer common terns were seen in the park in 1949 than in 1948.

Fall brought the return of many old friends, dressed now in their drab

and often confusing fall suits, and many new birds were added to the list, including the Harris's, Henslow's and Baird's sparrows.

Sept. 23 brought the greatest flight of birds we had ever seen in Jackson park, fall or spring. In a few hours more than 50 species were observed and a complete survey of the park would undoubtedly have been exceptionally rewarding. Great numbers of warblers, thrushes, and sparrows, including our first adult Harris's, were in the day's list. Sixteen species of warblers were observed and the first large numbers of juncos, white-throated and white-crowned sparrows. Particularly large numbers of myrtle warblers—about 200—were everywhere and they continued to be numerous throughout the autumn. The next day the red-breasted nuthatch, hermit thrushes, 25 northern water-thrushes, and an immature Harris's sparrow were seen. During the fall we saw in the park five of those seldom-seen Harris's. Sept. 29 brought an amazing flight of sparrows to the vegetable garden and other spots in the park. Many warblers and thrushes were still present.

On Oct. 12 many sparrows still were in the park; we also saw the Carolina and winter wrens and the rusty blackbird. During these fall days an interesting sight was the huge flocks of starlings—as many as 750 were seen in a short time—whirling through intricate, leaderless formations.

On Oct. 20 we added to our Jackson park list the white-breasted nuthatch, a usually common bird which we had not found in the park during two years.

To add to our examples of the always fresh interest of Jackson park birding, on Oct. 24, in a rest period during the stages of this article, a short walk resulted in our seeing five evening grosbeaks and a female baldpate.

Following is our Jackson park list of species:

Common loon; grebe: horned and pied-billed; heron: great blue, little blue, green, and black-crowned night; Canada goose; duck: mallard, black, pintail, blue-winged teal, wood, canvasback, greater scaup, lesser scaup, goldeneye, old-squaw, American scoter, ruddy, hooded merganser, American merganser, red-breasted merganser, and baldpate; hawk: sharp-shinned, Cooper's, red-tailed, marsh, sparrow, and pigeon; coot; killdeer; black-bellied plover; spotted sandpiper; sanderling; gull: herring, ring-billed, and Bonaparte; tern: common, Forster's, and black; mourning dove; cuckoo: yellow-billed and black-billed; screech owl; nighthawk; chimney swift; ruby-throated hummingbird; kingfisher; flicker; woodpecker: red-headed, hairy, and downy; yellow-bellied sapsucker; flycatcher: crested, alder, least, olive-sided, phoebe, and wood pewee; barn swallow; purple martin; blue jay; crow; nuthatch: white-breasted and red-breasted; brown creeper; wren: house, winter, and Carolina; catbird; brown thrasher; robin; thrush: wood, hermit, olive-backed, gray-cheeked, veery, and willow; bluebird; blue-gray gnatcatcher; kinglet: golden-crowned and ruby-crowned; cedar waxwing; starling; vireo: yellow-throated, blue-headed, red-eyed, Philadelphia, and warbling; warbler: black and white, golden-winged, Tennessee, orange-crowned, Nashville, yellow, magnolia, Cape May, black-throated blue, myrtle, black-throated green, Blackburnian, chestnut-sided, bay-breasted, black-poll, pine, prairie, palm, Connecticut, mourning, Wilson's, Canada, oven-bird, northern water-thrush, yellowthroat, and redstart; English sparrow; eastern meadowlark; blackbird: red-winged and rusty; Baltimore oriole; bronzed grackle; cowbird; scarlet tanager; cardinal; rose-breasted grosbeak; indigo bunting; purple finch; evening grosbeak; common redpoll; goldfinch; red-eyed towhee; junco: slate-colored and Oregon; sparrow: Savannah, Henslow's, tree, chipping, clay-colored, field, Harris's, white-crowned, white-throated, fox, Lincoln's, swamp, song, and Baird's.

Western Meadowlarks in Cook County

By F. J. FREEMAN

ABOUT EIGHT YEARS ago I had identified for me the song of the western meadowlark. I was calling on a man who lived on Wood Dale road just south of Devon ave., and upon hearing the bird singing there, I asked him and he told me what it was. Since then I have heard and seen it many times along the Wood Dale road, the Arlington Heights road, and intermediate roads.

During April of 1946 I made a survey of birds along the road as I drove from Itasca to Arlington Heights each morning. The road leads north out of Itasca; at the south end of the Elk Grove forest preserve (recently renamed William Busse forest preserve) the road swings east and then north up the eastern edge of the preserve. After leaving the preserve area the road continues north into Arlington Heights. Perhaps the most important fact I gleaned from this check was that in the first section of the road, about four miles up to the preserve, I heard on the average five western meadowlarks singing to four eastern. This section of the road runs through typical dairy farming country.

The next section running along the preserve is also dairy farming changing into truck farming country. Just a few eastern meadowlarks were heard in this area. Reason? Predators, perhaps, both furred and feathered, from the preserve and a lack of suitable habitat. However, Gordon Pearsall, in his report on Elk Grove in 1942, lists one nest of the western meadowlark found in a wet meadow in the southern part of the preserve. The next section of the road, which runs through a mixture of peony farms, cultivated fields, and acre homesteads to the outskirts of Arlington Heights, yielded many eastern meadowlarks but no western ones.

I have only one record indicating how much farther east, south, or north of the adjacent territory the range of the western meadowlark extends. I do have records of their singing southwest, west, and northwest up into the Barrington countryside. The lone record in any of the other directions is that two springs in a row I heard a western meadowlark singing near the southeastern corner of Prospect Heights, south of the intersection of MacDonald and Wheeling roads. This is eight or ten miles northeast of where I usually have heard them.

According to my records the meadowlarks of both species start their singing in March. Sometimes one species is heard first and sometimes the other, sometimes early in the month and sometimes late. I have also heard meadowlarks with a song that was a combination of both so that you could not tell which kind it was. I wrote to A. A. Saunders about this singing, wondering if it indicated hybridization. From him I understood that hybridization would show up in the alarm call which, in the two species, is distinctive and instinctive, whereas the song is acquired. I have yet to hear an indeterminate song followed by an identifying alarm call. Some day someone may hear an indeterminate song and an indeterminate alarm call and find himself on the track of a hybrid "middle-western" meadowlark.

Florida in February, 1949

By DR. ALFRED LEWY

We left Chicago by train for New Orleans Feb. 3 at 5 p.m. It was already quite dark and snowing, presently turning to rain. The next morning from McComb, Miss., on to New Orleans through the dirty windows I could recognize two vultures and a hawk about the size of a red-shouldered. The willows were in leaf and an unidentified tree in catkins. The grass was green but the fields brown. At Kenner we saw the first palms; azaleas were in bloom and camellias past their prime.

In New Orleans it was raining. At Audubon park the boat-tailed grackles were much in evidence, as usual; blue jays, robins, and mockingbirds were seen; a meadowlark who sang the eastern song and a Baltimore oriole were heard. The mockingbirds were silent. On the 6th we took a short drive to see the bald eagle nest in the Lake Ponchartrain marsh, which is visible from the highway. One mature eagle was at the nest.

Feb. 9 we started for Florida by auto. We passed the point from which the eagle nest is visible, but no eagle appeared. We did see one near Gulfport, Miss. Mockingbirds and jays were common sights as were turkey vultures. On the entire trip very few black vultures were identified, although I believe I can identify them at a distance. At Bellingrath gardens birds were relatively scarce, perhaps because of the insect control measures necessary in so highly cultivated a place. It is one of the show places of the south and well worth the short side trip from the main road. Mr. Bellingrath is well along in years, but tries to see all the hundreds of guests who are attracted to this beautiful spot.

Approaching Pascagoula four osprey nests were seen within a half mile, but no osprey. East of Ft. Walton on the white sands were sanderling, but in general shore birds were scarce all along the gulf coast. On the 11th we started out from Ocala and visited Silver Springs, where through glass bottomed boats we saw the deep but not dark caverns filled with gems of vegetation, fish and turtles, all imaginatively and poetically named in the continuous lecture delivered by the "guide," but nevertheless a most interesting spectacle.

As we approached Melbourne over the St. Johns river marshes, there were many boat-tailed grackles, many egrets—American and smaller white ones that may have been little blue herons or snowy—and one bird that looked to me like a sandhill crane in flight, with outstretched neck; meadowlarks, sparrow hawks, bluebirds, and shrikes. We were soon in Melbourne where Ed Ford had secured accommodations for our stay, which turned out to be for four exciting days.

Our first trip was to Melbourne Beach and Cocoa Beach, reached by crossing the Indian and Banana so-called rivers, which are really inlets or bays of the ocean. A bald eagle greeted us overhead and our list included tufted tit, cardinal, mockers, red-bellied woodpecker, Florida or scrub jay—

softer colored than ours but beautiful in some lights—robins, sparrow hawks, shrikes, bluebirds, palm warblers, brown pelicans, herring and ring-billed gulls, royal terns, almost as large as our Caspians and easily identified by their yellow bills and generally less black on the primaries and deeper forked tails. On the beaches were semi-palmated and piping plover, turnstones, and sanderling, and in the water scaup and blue-winged teal, pied-billed and horned grebes in winter plumage, and of course boat-tails and red-wings. The scaup were quite tame and made themselves at home around a waterside restaurant.

On the 13th a small party consisting of Ed Ford, Sam Harper, Foster White, Mr. Close, secretary of the Miami Bird club, and I made an afternoon visit to Merritt island, a renowned bird haunt which lived up to its reputation. Without going more than a few yards from our cars at various stops we saw large numbers of many species. We did not visit the north end where the dusky seaside sparrow, which has a very limited range, may be seen. Most of the great blue herons had much white on the head and rather pale bodies, and were classified by the Florida men as Ward's heron. After seeing many herons grading from a dark slate, darker than those of the Chicago area, to the pure white of the great white heron, including one which Dr. Eifrig is certain was a Wuerdemann's heron, which has no black head plume, I am in doubt as to these various sub-species. They seem to intergrade so. On reaching home I saw the little ground dove feeding alongside the mourning dove. There is a marked contrast in size.

On the 14th at the river near our hotel I saw a beautiful parula warbler, seeming more brilliant than I have ever seen them in our region, and a towhee with a brown, not red, iris. The royal terns were diving from about double the height generally used by the common tern, and the brown pelicans were throwing themselves sidewise from low altitudes with a great splash, and when not straight forward always to the left. I never observed one wing over to the right when splashing into the water. I was amused by a description I once read of the graceful dive of the brown pelican!

The 15th was another gala day. We met the Eifrigs and Ekdahls at Co-coa Beach. They had driven down from Windermere. On the way there were many sparrow hawks on telegraph wires, and on one post a Mississippi kite, slightly larger and with a tail entirely dark, who took off in graceful flight. He was sighted again over a nearby grove and this time also by Dr. Eifrig. Over the water were ring-billed, herring, and Bonaparte's gulls, Caspian, royal, and least terns; on the beach least and red-backed sandpipers, sanderling, and black-bellied plover; in the "river" blue-winged and green-winged teal, shoveler, scaup, red-breasted merganser (female), and flying overhead a frigate bird, who looked all black, a new one for my life list. We saw a heron that Dr. Eifrig thought was a Wuerdemann's because of the white head and front of throat, but the distance was too great to be sure there was no black plume.

The next event of interest was the visit to Royal Palm park in Everglades National park. Through the courtesy of Dan Beard, superintendent, I met Mr. Dille, the park naturalist, who took me for a small personally

conducted tour. Wood and white ibis abounded in flocks and were wheeling around all the time, also American egrets and little blue herons in both white and blue plumage, and a few Louisiana herons. The limpkin, which I was also to see at Wakulla Springs, and the anhinga were interesting. Also for my life list the great white heron was pointed out to me by Mr. Dille, who called attention to the heavier head and bill complex as compared with the American egret. The legs show some yellow compared with the black legs of the egret.

Of great interest was my first view of what is virtually a tropical jungle: banyan trees; the strangler fig whose seed landing in the crotch of a live oak proceeds to throw out roots that follow the trunk of the host to the ground, eventually choking it to death; royal, silver, cabbage, saw palmetto, and cocoa palms; many other trees with orchids and bromelias crowding their trunks and branches which they use for physical support while depending on the air for sustenance. There were many other trees new to me.

The next day we started back north taking the road west of the unseen Lake Okeechobee. In the marshes just north of Miami were many egrets, both snowy and American in breeding plumage; little blues, white ibis, and one that looked like a glossy ibis, feeding on a mud flat. It was a new bird to me, but looked like the flock I saw later at the Delta (Miss.) refuge. Many marsh hawks were seen and for the first time I saw an Audubon's caracara. The red face, white primaries and tail, and dark midsection seemed characteristic.

We visited Bok tower near Lake Wales, arriving just in time to hear the chimes, which play only Tuesday, Thursday, and Saturday at noon. Birds in this sanctuary seemed relatively scarce; in fact, throughout the orange country this was true, and I cannot help thinking that insect control has something to do with it.

On Feb. 23 we visited the Delta Wildfowl refuge, nearly 100 miles south of New Orleans. We were met at Venice, La., by the refuge manager, Kent Myers, and taken by boat down and across the Mississippi, which was at flood stage. The refuge is about 48,788 acres of marsh and flats, plus gull and tern islands in Breton sound. On these islands egg collectors are a problem. They ruthlessly trample all the eggs so as to be sure to get fresh ones a day or two later. One wonders how the sea birds ever survived before government protection was afforded. Large flocks of geese, mostly blues mixed with a few lesser snow and Canada, got up with a tremendous clamor. One flock of about 3,000 and others of 1,000 to 2,000 were seen.

The visits to the Everglades National park and to the Delta refuge were made possible through the offices of our good friends, Leo Couch and Philip DuMont, of the fish and wildlife division of the department of the interior, and I want to take this occasion to thank them again.

More About Florida

Dr. Lewy was not the only member of the Illinois Audubon Society to visit Florida last winter. At least six others visited the state in late Febru-

ary or in March with the prime intention of seeing birds that do not come to Illinois, and all of them were rewarded handsomely.

All these six took the tours offered by the National Audubon Society of the Okeechobee-Kissimmee area and the Everglades National park area, the two best methods of being certain to see such rare or localized species as the Florida sandhill crane, the burrowing owl, the great white heron, the roseate spoonbill, the reddish egret, and many others.

These tours were described in the June, 1948, issue of the *Audubon Bulletin* by Mrs. Janet H. Zimmermann, who took them with Mrs. Amy Baldwin in March, 1948. They have been highly successful and should continue to be a must for the bird watcher who has little time to spend.

On their own, however, many out of the way spots were visited by these tourists with excellent results. In case other members plan to be in Florida in the coming months, they may find it useful to know where they can go to duck the usual tourist "attractions" and see birds and other wildlife in a natural setting instead.

Mrs. Paul Stephenson, of Evanston, who visited Florida with her husband and son early in March, learned of a good spot from some people who had taken one of Alexander Sprunt Jr.'s tours at Okeechobee. The location is on Madera island, off the west coast near St. Petersburg. At 140th ave. on Boca Ciega bay, which is on the east side of the island, is a sand bar where she found thousands of shore birds so solidly packed it was difficult to see the sand, she reported. Among her finds there, all at close range, were oyster-catchers, piping, semipalmated, Wilson's, and black bellied plover; ruddy turnstones, willets, at least 200 knots, least and semipalmated sandpipers, at least 100 red-backed sandpipers, dowitchers, marbled godwits, sanderlings, 75 black skimmers, herring, ring-billed, and laughing gulls, and Forster's, common, least, royal, and Caspian terns.

Mrs. Stephenson also was fortunate in being on Merritt island, off the east coast, at dawn one morning when a flock of 400 to 500 white pelicans flapped by, headed north. She felt she could have touched them with a 20 foot pole. On that island also is the dusky seaside sparrow, easy to find at the end of the bridge to Titusville. On a golf course at Miami Shores, she found a large flock of smooth-billed anis. A visit to Highland Hammock state park in central Florida was not as rewarding as it might have been, for the region had had no rain for months. She found the pileated woodpecker there, however.

Miss Leona Draheim and Miss Millicent Stebbins, both of Chicago, were limited in having no automobile, but aside from the Audubon tours they were able to visit Fort Pierce and see the painted buntings. They saw eight, four males and four females, at the feeding tray where Miss Clara Bates has been luring them for years. They also saw quite a rarity in Miami—a robin! It was the only one they saw in Florida, and was considered quite unusual for that time of year.

Mr. and Mrs. John Bayless of Chicago and Mrs. W. B. Douglas of Shelbyville, Ind., a member of the Illinois society, were in a party that twice vis-

ited St. Mark's refuge, on the gulf coast south of Tallahassee, while staying several days at Wakulla Springs. They found 94 species March 29 and 92 on March 30, although most of the ducks that winter at St. Mark's were gone. Red-cockaded woodpeckers, brown-headed nuthatches, swallow-tailed kites, Hudsonian curlews, purple gallinules, ospreys, bald eagles, least bitterns, and clapper rails were among the finds there. Wakulla produced limpkins, anhingas, ospreys, bald eagles, pileated woodpeckers, and a barred owl.

They also took a boat from Clewiston and saw the rare Everglades kite Not in Florida, but just north of Birmingham, Ala., on the return trip, they saw a Mississippi kite also.



Rockford Field Trip

The Society's first post-war field trip was a success, those who participated agree, and we hope to have more. About 50 persons showed up at the Rockford rendezvous Sept. 18, fewer than we had hoped for, but satisfactory in view of the threatening skies under which most started from home. The weather cleared and the day proved ideal for an outing. Various clubs and cities throughout northern Illinois were represented and the North Central Illinois Ornithological society, of Rockford, our host for the occasion, had a well planned program for the day.

Donald Prentice, tour leader and retiring president of the Rockford group, and Paul Boynton, president-elect, thought the local birds were less coöperative than they might have been, but what one of us has ever taken guests to a favorite birding spot and had all the ones we knew were there show up on schedule? Birds just don't do that, and this is part of what makes birding the fun it is. A good list was compiled, including at least 13 species of warblers, six sparrows including the Lincoln's and the clay-colored, five woodpeckers, five hawks, and a winter wren whom few would fail to count as a find in September.

The tour included visits to the fish hatchery, the Seth Atwood estate, the Hononegah forest preserve where picnic lunch was served by our Rockford hosts, and the E. W. Green Security lake property.

More such field trips should be planned in various parts of the state, not only to acquaint members with new birding areas but, more important, to acquaint members with each other and with other groups and individuals with similar interests throughout Illinois so that we can better work together in the interests of sound conservation and the enjoyment of nature.



A Christmas Gift Suggestion

For the bird students on your Christmas shopping list we suggest a membership in the Illinois Audubon Society. Send us the names and addresses with your remittance not later than Dec. 20. We will write a letter with your Christmas greeting to those you select and mail them a copy of the December issue of the Audubon Bulletin.

The Lust to Kill

By C. O. DECKER

PRIMITIVE MAN of necessity taught himself to kill for food and for body coverings such animals and fowl as were known to him and he was able to conquer. The successful killers of game and the successful killers in war became the Great Hunters and Great Leaders in their tribes and were looked up to and honored accordingly.

Through the thousands of years, that desire or compulsion to kill became so imbedded in man's nature that it still survives after centuries of our so-called civilization. It came to the surface in the incident reported by R. Lee Sharpe. He met a little boy trudging along a country road with a rifle over his shoulder. "What are you hunting, buddy?" he asked. And the boy replied, "Dunno, Sir. I ain't seen it yet."

The changes which followed man's growing of grain and domestication of cattle, sheep, and swine and the various fowls have done away with the necessity of hunting and killing for food, but the lust to kill still persists and has resulted in the extermination of the passenger pigeon and the heath hen, nearly so of the prairie chicken, woodcock, and jack snipe, and dangerous depletion of the once enormous flocks of waterfowl.

The State Natural History survey made a study of the expense incurred by duck hunters and found that the average cost per duck shot during one season was \$7.25, an entirely unreasonable price to pay as a source of food, and only understandable when considered as "sport," a somewhat more euphemistic expression than the "lust to kill." The use of live pigeons for targets in trap shooting has long been banned as cruel. Are our ducks less valuable than pigeons that we permit them to be shot as "sport" when they are no longer needed as food?

A rather well known writer recently described the plight of some Canadian farmers when flocks of ducks descended upon their grain fields. The farmers were obliged to keep someone watching to frighten the birds away and were permitted to kill them at any time when they were damaging the crop. This writer was bemoaning the fact that he could not go up there and hire out to shoot the ducks that came in to feed. Can you imagine a plainer display of the lust to kill?

This desire is more widespread than most of us realize. Fish and Wildlife records show that Illinois is second only to California in sales of duck stamps, and the percentage of birds taken from the estimated number using the Mississippi flyway is greater than that from any other flyway.

All of the states surrounding Illinois have taken the mourning dove, first cousin to the passenger pigeon, off the game bird list. The open season here often finds the mourning dove with young still in the nest, and killing of the parent birds means the death of those young. Suggestions that we follow the example of our neighbor states have been made, but the pleas that these birds be kept available for "sport" still prevail, thus proving that the primitive urge is still strong. How many more centuries do you suppose it will take to educate this out of ourselves?

Dr. Strong Honored by A.O.U.

Dr. R. M. Strong, president of the Illinois Audubon Society, received probably the top honor ornithology has to bestow when he was made a fellow of the American Ornithologists' Union during that organization's annual meeting Oct. 10-14 in Buffalo, N.Y. Only 50 of the foremost ornithologists in the country are fellows in the A.O.U.

The honor was bestowed on Dr. Strong in absentia (he was unable to leave Chicago at the time) in recognition of his long and active career of more than 40 years in ornithology, climaxed by the publication of his monumental bibliography on the literature of nearly every aspect of bird life.

One of the founders and past president of the Wilson Ornithological club, and an early and active member of the Chicago Ornithological society, Dr. Strong is a research associate at the Chicago Natural History museum. He retired several years ago as dean of anatomy at Loyola university medical school.

For more than 35 years he has been compiling his bibliography. Three volumes have been published. The first two, by authors, contain 937 pages, and the third, by subjects, has 528 pages. A fourth, consisting of a finding index of 200 more pages, is nearly ready. Those already in print include 23,000 titles taken from 2,000 periodicals and a vast number of books in 20 languages. Dr. Strong, who reads several languages himself, had assistants searching libraries all over the world for bird literature in the others.

The entire field of ornithology excepting distribution and taxonomy is covered. A total of 167 major topics is included, each divided into sub-topics. The first two were published in 1937 and the subject volume in 1946. Dr. Strong has culled through thousands of additional books and articles since in order to bring his work up to date. This in itself is a major undertaking in view of the great amount of ornithological literature constantly being published. The whole project is the first and only one of its kind ever done on the subject.



*The woodcock is the greatest bore:
He perforates the forest floor
With his long bill for worms and things
And sometimes in the dusk he sings.
He sings and soars and loops the loop
In mist and darkness thick as soup.*



*Say, have you ever seen a snipe,
When redwings call and tree-toads pipe?
It's hard to see a snipe close by;
In dead grass he escapes the eye.
When flushed the best of all his japes
Is bleating "'scape" while he escapes.*

—E. R. FORD

THE ILLINOIS AUDUBON SOCIETY,

organized for the protection of wild birdlife, invites the attention of all interested in such work to the unusual opportunities the present time offers to advance the cause of bird protection. Work of this kind is receiving increasing approval on the part of the general public because of the growing appreciation of the important part birds play in protecting grain and other food products from the attacks of insectivorous pests. The economic welfare of our country is seen to be involved in the preservation of wild birdlife, and the situation is both an incentive and a challenge to the most thoughtful and far-reaching effort.

The Illinois Audubon Society finds itself in perfect accord with every movement concerned with the preservation of plant life and of the natural scenery of which it forms a part. Every protected bit of landscape, every bit of forest and of wayside tangle set apart for preservation is speedily appraised by the birds for purposes of their own, and thus conservation of forest and prairie, of lake and water course in their natural setting means conservation of birdlife. For these reasons the Society exerts every effort to disseminate the facts relating to the economic importance of our birdlife, and strives to arouse interest in the creation of wildlife refuges.

The Society maintains an office at the Chicago Natural History Museum, Roosevelt Road and Lake Shore Drive, Chicago 5, where literature and information may be obtained, and where public lectures are held. Your support as a member is earnestly solicited. Membership fees are as follows:

ACTIVE MEMBERS	\$2.00 annually
CONTRIBUTING MEMBERS.....	\$5.00 annually
SUSTAINING MEMBERS.....	\$25.00
LIFE MEMBERS	\$100.00



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